Coethnic Rivalry and Solidarity: The Political Economy of Politician-Bureaucrat Cooperation in India[*]

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Abstract

When do bureaucrats help politicians achieve their goals? We argue that shared identity influences cooperation but can produce solidarity and rivalry. We argue these differential dynamics emerge in response to histories of mobilization and conditions of scarcity: solidarity in the face of scarcity is more likely within groups with shared histories of successful political mobilization, whereas rivalry is more likely within groups with no such history. We examine the effect of caste category congruence on the approval times of pork barrel projects in India. We observe faster approval of politician-proposed projects by bureaucrats from the same caste category in states with caste category-based mobilization around affirmative action. In states where affirmative action was imposed from the top down, project approvals are slower. We explore mechanisms and suggest the likely importance of institutionalized norms. These results demonstrate that identity congruence can both improve and worsen bureaucratic performance, contingent on historical factors.

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Politicians make promises to voters but cannot fulfill these promises personally. For a politician's policies to be implemented, they must collaborate effectively with bureaucrats. Whatever the formal rules, this is often easier said than done. Given limited time and insufficient incentives, bureaucrats may not implement politicians' priorities in a timely fashion. Bureaucrats may attempt to "subvert" politician goals because they disagree with them or because they believe that implementing them would involve costly effort on their part (Gailmard and Patty, 2012; Pepinsky, Pierskalla and Sacks, 2017). Bureaucrats can delay policy implementation, do just what they are specifically ordered to, or even "forget" rules or policies they dislike. An extensive literature has focused on the ways institutions are structured to minimize agency losses of this nature (Weingast, 1984), while another set of scholars has examined the effects of improved bureaucratic monitoring and sanctioning on service provision (Dasgupta and Kapur, 2020; Gulzar and Pasquale, 2017; Butler, 2010; Brierley, 2020).

The discussion of the institutional predictors of bureaucrat-politician cooperation has abstracted away from the more personal elements of these interactions. While we know that many individual factors influence cooperation, one dyadic trait stands out: the role of shared identity. Ascriptive identities—ethnicity, religion, gender, caste etc.—play an important role in shaping the preferences of politicians (Kramon and Posner, 2016; Chattopadhyay and Duflo, 2004; Gulzar, Haas and Pasquale, 2020) and bureaucrats (Bhavnani and Lee, 2018, 2021; Meier and Dhillon, 2022; Purohit, 2022). Similarly, we know that such identities can shape the ability of individuals to cooperate in lab (Habyarimana et al., 2007; Fehr, Hoff and Kshetramade, 2008), economic (Hjort, 2014) and political (Kalin and Sambanis, 2018) settings at both the individual and community levels (Alesina, Baqir and Easterly, 1999; Singh, 2015; Lee, 2018). Purohit (2022), for example, shows that gender incongruence in politician-bureaucrat pairs is associated with less cooperation, while Chakrabarti (2021) demonstrates higher redistribution when marginalized caste groups are present both in politics and the bureaucracy.

But intragroup cooperation is not inevitable. We theorize and show that identity, particularly supraordinate identities, can have contradictory roles in shaping politician-bureaucrat interactions. Intuitively, shared identity can lead to intragroup solidarity, where common identity enables individuals to more effectively cooperate (Habyarimana et al., 2007; Singh, 2015;

Hassan, 2020; Posner, 2005). Shared identity can also lead to intragroup rivalry, as members of the same group compete with each other, often for a fixed pool of group-specific benefits (Dunning and Nilekani, 2013). These dynamics are particularly acute for supraordinate identities that have more diffuse preferences and networks and which are usually the level at which affirmative action is applied, creating conditions of scarcity that can foster competition.

We argue that which of these mechanisms dominates depends on historical and political factors: where there is a history of successful group political mobilization, group members will, at present, be more willing to cooperate with one another. By contrast, where there is no such history of group-based political mobilization, group members today will not be more inclined towards cooperation and will be inclined towards competition under conditions of scarcity, such as if there are common pool resources that are contested among subgroups (e.g., affirmative action). Extending Habyarimana et al. (2007), we argue that both dynamics can be enforced through inculcated preferences, developed technologies, socialized attitudes, and institutionalized norms of behavior. We provide suggestive evidence that institutionalized norms of behavior—cooperative equilibria—are likely when political histories loom large for present-day behavior.

To study the role of identity in shaping politician-bureaucrat interactions, we consider bureaucratic delays in the delivery of pork barrel projects in India. India presents an interesting case both because of the salience of social identities in politics and everyday interactions and because the composition of the political class (Jaffrelot, 2003) and bureaucracy (Bhavnani and Lee, 2021) have changed greatly over the past half-century in response to coordinated movements of caste mobilization and affirmative action. Yet the state has also played a critical role in imposing and structuring the ways these movements translate into affirmative action. Even today, protests rage around whether or not affirmative action should be granted to all subordinate identities within supraordinate groups (i.e., should the "creamy layer" be protected).

Caste (*jati*) is a basic form of social organization across India, but *caste categories* (groupings of similar castes including Other Backward Classes (OBCs), Scheduled Castes (SCs), and Scheduled Tribes (STs)) are an important political identity and form the official basis for affirmative action. In Southern India, horizontal movements of socially similar jatis successfully organized to demand policies of affirmative action for caste categories in the early 20th century. In Northern India, such movements were late to form, and affirmative action policies were only

instituted via top-down mandate by the national government. We expect that these regional histories, which have been extensively relayed in qualitative research (Srinivas, 1960; Rudolph, 1984), will condition and moderate the effect of caste category on politician-bureaucrat cooperation. In states with successful mobilization for caste category affirmative action (mostly in the South), supraordinate identity congruence will lead to better outcomes (*solidarity*), and in states where caste category-based affirmative action was externally imposed (mostly in the North), supraordinate identity congruence will lead to worse outcomes (*rivalry*). The existence of both dynamics, but especially rivalry, is likely due to the scarcity imposed by affirmative action.

To measure the quality of bureaucratic cooperation, we focus on a program of great interest to politicians, the Members of Parliament Local Area Development Scheme (MPLADS). This program gives every Member of Parliament (MP) a budget for public works within their constituency. MPs submit projects to the nodal district officer (DO) in their constituency, who is legally required to approve and oversee project implementation. While virtually no projects are rejected, there is considerable variation in the time to approval, with many being delayed by months or even years. Since approval is not discretionary, but the time spent is within the bureaucrat's control, we believe that these delays are a good measure of bureaucrat-politician cooperation, the subversive use of "red tape." Revealingly, approval times are not correlated with project characteristics but are correlated with whether the MP is associated with the party of the state's Chief Minister.

To measure politician and bureaucrat caste, we use three different data sources: the Trivedi Centre for Political Data dataset of MP jati and caste category, Bhavnani and Lee's (2021) data on the caste category of DOs, and our own coding of DO jati. By combining these data, we identify the caste category and jati for MPs and DOs for 149,156 MPLADS projects between 1999 and 2009. We focus on caste category congruence between politicians and bureaucrats as this best relates to our theory of supraordinate identity mobilization, but we also consider jati congruence (which is rare).

We measure histories of political mobilization in two ways, drawing on a rich body of qualitative insights and our own analysis of political histories. First, we differentiate states based on whether they adopted OBC reservations for government hiring and university admissions prior to the 1994 national mandate. States that institutionalized these reservations prior to

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1994 did so at the behest of organized, cross-jati popular movements (Jaffrelot, 2003), whereas states that lacked sufficiently strong cross-jati coalitions had the reservation policy imposed by the national mandate. Once mandated, these policies created common pool resources among OBCs. One benefit to this measure is that the second largest caste category group among DOs (behind upper castes) is OBC. Second, we differentiate states based on well-accepted regions with common political histories and cultures and differences in the distribution of jati. Southern states had stronger subaltern movements more generally that yielded a culture of solidarity across jatis (Lee, 2019; Rudolph, 1984), and politics in BIMARU (northern) states was marked by contestation among upper castes with slow-forming lower caste organizations, yielding a culture defined more by jati than caste category. Rivalry in this latter context is theorized as the consequence of this lack of a cohesive caste category culture alongside competition for scarce resources under affirmative action. We validate these regional differences using historical data and seven indicators of the nature of caste politics.

We find that caste category affects bureaucrat-politician interactions, and the effect is moderated by political history. When bureaucrats and politicians are from the same caste category in Southern states, the probability of projects being approved within the official time limit is six to twelve percentage points higher than different category pairs in the same states. The opposite is true in the North, where bureaucrat-politician caste category congruence is marked by a four to ten percentage point lower probability of on-time project approvals relative to different category pairs. Similar patterns attain when differentiating states based on their histories of adoption of OBC reservations, with a marginally more robust rivalrous relationship in states where OBC reservations were top-down imposed. We show that our results are robust to subsetting to early career bureaucrats, whose placement has been shown to be arbitrary, and to states in which the assignment of bureaucrats to posts is known to be random, suggesting these dynamics are not the result of intentional selection decisions by politicians (Bhavnani and Lee, 2018).

Finally, we evaluate the mechanisms of cooperation and suggest that these dynamics persist because of institutionalized norms of behavior as opposed to socialization, shared preferences, or shared technologies. The dual relationship of caste category congruence and timely sanctioning persists even after controlling for shared language between politicians and bureaucrats and shared geography of origin. Further, we show that our results are not driven by a bureaucrat's

state of birth, suggesting a limited role of socialization in explaining the observed patterns.

Our results contribute novel learnings to three literatures. First, unlike in the large literature on the positive impacts of coethnicity, we observe a robust dynamic of rivalry—worse bureaucratic outcomes—between coethnics. This nuances our understanding of how shared identity matters for performance and outcomes, which has largely focused on the positive benefits of coethnicity (Alesina, Baqir and Easterly, 1999; Miguel and Gugerty, 2005; Habyarimana et al., 2007). Second, we document that the observation of solidarity or rivalry between coethnics varies geographically and coincides with historical differences in political mobilization. This builds on work on the construction of identities to suggest how historic political incentives can impact the same (supraordinate) identities in different ways (Miguel, 2004; Posner, 2005; Chandra, 2007). Third, we demonstrate the importance of identity in creating or reducing agency losses in politician-bureaucrat interactions. This builds on a large literature on the nature of bureaucratic compliance and suggests a need to consider social identity in these models (Gailmard and Patty, 2012; Pepinsky, Pierskalla and Sacks, 2017).

1 Theory

1.1 The Problem of Bureaucratic Non-Compliance

In standard theoretical accounts of the state, politicians or principals delegate authority to bureaucrats or agents to implement projects (Gailmard and Patty, 2012; Miller, 2005). However, delegation to bureaucratic agents can cause politician principals to fail to receive their favored outcomes. The root causes of such agency problems are conflicting interests of principals and agents and imperfect information and monitoring capacity. If politicians and bureaucrats had identical interests or if politicians could perfectly monitor bureaucratic performance, there would be no agency losses.

Bureaucrats usually do not have the formal power to veto policy decisions made by politicians or to formally refuse to implement them. Instead, bureaucrats may fatally cripple policy by not exerting effort to implement it or insisting on the full satisfaction of complex or burdensome rules—red tape.The passive ability of bureaucrats to stymie policy is well-known. Given misaligned interests, the usual solution to bureaucratic shirking in well-institutionalized sys-

tems is improved monitoring and incentives, which enable the punishment of bureaucrats for shirking or reward for good performance.Alternatively, principals can select agents who would produce politicians' favored outcomes even with weak incentives and monitoring. Agency losses can be minimized when bureaucrats share the policy preferences of politicians, internalize the benefits from politicians' success, or gain intrinsic benefits from service. Our simplified setting for bureaucrat-politician interactions thus involves a politician delegating authority to a bureaucrat, who may or may not exert effort to serve the politician's goals and whose incentives, for many reasons, may be misaligned and lead to agency losses.

1.2 How Identity Influences Bureaucratic Compliance

Many principal-agent models do not recognize that principals and agents have identities that have behavioral consequences. A vast literature across the social sciences shows that people, including politicians and bureaucrats, are frequently motivated to act in particular ways due to their identities (Kalin and Sambanis, 2018; Akerlof and Kranton, 2000). We define identity as referring to social categories defined by membership rules and characteristics, including ascriptive traits (Fearon, 1999). Each individual holds many social identities of varying salience. Some of these identities are nested, meaning that subordinate identities are embedded in larger supraordinate identities. We theorize principal-agent dynamics of nested identities where principals and agents must work together on a joint task. That said, we expect our arguments to also apply to other identities, such as gender.

How does taking identity into account alter the principal-agent relationship? We argue that identity can shape the likelihood of shared interests between politicians and bureaucrats and the nature of coordination.

Identity can affect principal-agent cooperation by shaping preferences. It is often assumed that shared identity is likely to yield common preferences (Chen and Li, 2009). This can be because shared experiences yield similar preferences or because group members have other-regarding preferences (Habyarimana et al., 2007; Singh, 2015).[1] Shared and other-regarding

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[1]Shared preferences can emerge out of the geographic concentration of groups (as with many ethnic groups), shared experiences in the economic division of labor (as with gender), and historic group-based inequalities.

preferences should cause principals and agents to have more closely aligned incentives and, therefore, more cooperation. Additionally, shared identity often comes with shared technologies, such as denser networks or shared language, that support coordination.

Coethnicity can also improve cooperation by enabling easier coordination. For example, ethnic group cooperation has been conceived of as equilibrium selection in a repeated coordination game, where coethnics are better able to select cooperative equilibria Habyarimana et al. (2007); Fearon and Laitin (1996). Ethnic groups can, therefore, establish norms of intragroup cooperation transmitted through informal, institutional rules and norms or through socialization. To the extent that coethnicity makes coordination easier, even pragmatic politicians and bureaucrats may prefer to favor "their own." This logic is similar to that advanced by Chandra (2007): in a context of limited information, coethnicity can serve as an easy and visible heuristic to define strategy. As a result, regardless of whether individuals have internalized positive or negative attitudes towards coethnics, they may behave in ways that align with group-based norms of cooperation.

While it is likely that some shared identities will reduce agency losses, it is not a given that all identities will. Shared identity may foster intragroup competition if group members see each other as rivals. For instance, in organizations that have strong sexist cultures and limited hiring of women, the women who do succeed are sometimes found to be hostile to promoting other women (Derks et al., 2011). Similarly, Latinx people and Blacks in the United States share the problem of competition for resources and status in a white-dominated society, and this has often led to hostility rather than cooperation (Telles, Sawyer and Rivera-Salgado, 2011). Conditions of scarcity tied to identity have the capacity to breed competition. Under such conditions, shared identity can enable competition in much the same way as it enables cooperation: inculcating highly differentiated preferences or affective preferences for members of their identity group to fail and institutionalizing norms of competition that increase the likelihood of choosing noncooperative equilibria (Habyarimana et al., 2007).

Thus, two competing logics emerge, which we will refer to as *solidarity* and *rivalry*. Under conditions of solidarity, we would expect that principals and agents with shared identities will cooperate with improved outcomes. Under conditions of rivalry, we would instead expect that principals and agents with shared identities will compete and undermine each other, producing greater agency losses or red tape.

1.3 When Solidarity and Rivalry Emerge

When are we likely to observe solidarity versus rivalry? While bureaucrat-politician interactions occur at the individual level, they occur within institutions and environments shaped by social and historical dynamics. The salience of various identities at present is influenced by the politics of the past. A major aim of political mobilization is the creation of coalitions of subordinate identity groups to serve political goals, and histories of political mobilization can set the conditions of identity-based interactions today. Most commonly, research has highlighted how the mobilization of supraordinate groups yields cooperation— solidarity—among subordinate groups as they organize around common political goals (Posner, 2005; Chandra, 2007; Pérez, 2021), though the nature of supraordinate identity formation can vary based on setting and political incentives (Posner, 2005). In some instances, we argue, supraordinate group mobilization can yield competition—rivalry—among subordinate groups, particularly when groups lack strong social and political ties and have historically faced conditions of scarcity, such as in the presence of common pool resources. Weak subordinate group ties are particularly likely when supraordinate group identity is imposed from the top down. Thus, we theorize, two attributes that likely condition the nature of identity-based interactions: histories of group-based mobilization and competition over scarce resources.

Supraordinate identity creation bears both benefits and costs. Supraordinate groups, by nature of their larger size, are more electorally viable and more likely to achieve political representation. As a result, such identities can better press the state to deliver targeted resources and benefits to group members, i.e. common pool resources shared among the group. Such common pool resources can include positions of power reserved for the identity group (Dunning and Nilekani, 2013), affirmative action benefits specific to the identity group, or social and political dominance within a specific region that they inhabit. There are also costs to supraordinate identity creation: the combination of multiple subordinate identities means subordinate identities must compromise to find common group demands. However, scarce common pool resources create conditions for subordinate group factionalism. The same common pool resources that supraordinate groups are better able to demand incentivize subordinate groups to compete for a monopoly of resources. Thus, the presence or possibility of scarce common pool resources enables both solidarity and rivalry to manifest. Given our context, where such

resources are omnipresent, we assume an environment of scarce common pool resources.

Under such conditions, solidarity among subordinate groups is most likely when supraordinate groups emerge out of successful subordinate group-based mobilization. The *successful* mobilization by subordinate groups for common pool resources, whether by the strategic decisions of subordinate group political entrepreneurs (Posner, 2005; Miguel, 2004) or horizontal mobilization (Pérez, 2021), is likely to create a sense of shared fate, inculcate norms of trust and cooperation, and generate shared preferences (Posner, 2005).

Rivalry is more likely when subordinate groups have been unsuccessful in mobilizing in support of supraordinate identity creation and instead had such identities exogenously constructed by external elites. Absent a history of joint mobilization, subordinate groups are unlikely to have developed norms of cooperation and trust nor shared preferences (Kramon and Posner, 2016; Lee, 2018). Instead, the presence of common pool resources is expected to incentivize rivalrous relationships between subordinate identities as they vie for power and limited resources allocated to their supraordinate group.

Over time, these attitudes and behaviors towards supraordinate group members are likely to become institutionalized, and these historical patterns of behavior are likely to shape interactions even for individuals at present who have no exposure to either political mobilization or direct competition for common pool resources (Posner, 2005). However, we expect people to behave in accordance with prevailing patterns and norms of group cooperation or competition. While it is challenging to define the exact mechanism through which such patterns of behavior transmit across time, we suggest it is likely similar to those studied in other instances of identity-based interactions (as discussed above): through socialization and internalization of group priorities, the inculcation of preferences, the development of technologies that affect monitoring capacity, and through the establishment of normative institutions that govern the likelihood of various strategies emerging (i.e., different equilibria) (Habyarimana et al., 2007).

In sum, we argue that politician-bureaucrat interactions today are affected by their identity, but this effect is conditioned by the past. In the present period, bureaucrats and politicians interact with one another. While these interactions are shaped by external monitoring and sanctioning, we argue that they are also shaped by their identities. The way that these identities shape behavior today is conditioned by how identities have been mobilized in the past. We argue that groups with histories of successful mobilization around larger identities will continue

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to work well together. Alternatively, groups with histories of imposed identities will fail to cooperate and may even compete under conditions of scarcity.

2   The Indian Bureaucracy

2.1   Politicians and Bureaucrats in India

The problems of politician-bureaucrat coordination are particularly marked in India, a country with strong traditions of an autonomous and meritocratic bureaucracy and powerful, democratically elected politicians. The most powerful element of the Indian bureaucracy is the Indian Administrative Service (IAS), which is a national service recruited based on a highly competitive written examination and interview.

After a period of training, IAS officers are assigned to states where they serve for the bulk of their careers. Within each state, the basic administrative unit is the district.Each district is headed by a bureaucrat, who we refer to as the district officer (DO). The DO has very broad responsibilities, with some suggesting that they have too many responsibilities to perform them adequately (Arora and Goyal, 1995; Dasgupta and Kapur, 2020). DOs supervise and coordinate every aspect of district administration, including local government, law and order, tax collection, and a large variety of anti-poverty programs. Delegation is discouraged both by formal rules and the gap in status between the DO and most of their immediate subordinates. DOs directly report to state-level bureaucrats but are monitored by the state Chief Minister as well as members of the state legislative assembly (MLAs) and national parliament (MPs).

MLAs and MPs are elected from single-member districts for five-year terms and while every administrative district has several MLAs, MPs represent larger constituencies that often combine several districts. While MLAs and MPs are limited in their individual influence on legislation, they are closely involved in distributional politics in their constituencies, where they are the most important elected officials.For this, they have access to dedicated funds and can influence the distribution of jobs and the implementation of welfare schemes and local public goods.

Since the district bureaucracy controls these core sources of patronage and pork, a good relationship with the district officer is essential. Even if the district officer receives specific

orders from legislators, they can undermine them by failing to allocate the energy to navigate a particular initiative through the morass of the district bureaucracy, pleading the mass of other equally urgent competing priorities. The problem of initiatives being delayed or implemented poorly due to bureaucratic overload is a well-known problem in India (Dasgupta and Kapur, 2020). As Bhavnani and Lee (2018, 2021) have shown, the discretion of IAS officers is substantial enough that the personal characteristics of officers are associated with district-level outcomes.

IAS officers are promoted based on seniority and can only be fired for cause. However, the state government controls the transfers of officers and uses this power to ensure that legislators have sympathetic DOs. Opposition members may be punished by the posting of unsympathetic officers to their districts (Iyer and Mani, 2012), or simply by seeing their projects delayed (Rivera, 2020).

In summary, members of parliament and district officers, while formally independent of each other, have important powers relative to the other. DOs have the power of non-compliance. MPs need to be able to execute projects and get favors granted by the local administration to gain a reputation as effective constituency servants, and DOs have discretion over how much of their oversubscribed time is spent helping the MP. The MP, on the other hand, can influence the state government to have the DO transferred, an effective sanction that is frequently used after elections (Iyer and Mani, 2012).

2.2 Ascriptive Identities in Indian Politics

One of the most important political identities in India is caste. India contains several thousand castes or *jatis*, endogamous groups that generally share a common origin story and often a traditional occupation and formal or informal caste institutions. Jatis were traditionally ranked relative to each other, with higher ranked jatis being considered ritually "cleaner" than others and having a higher socio-economic status, often reinforced by political and social discrimination and religious belief. While jati-based discrimination is now formally illegal in India, it remains common, and jati often structures social interactions and is correlated with wealth and education. Jati is also predictive of vote choice (Huber and Suryanarayan, 2016), and shared jati has been found to be predictive of individual cooperation in experimental studies (Fehr, Hoff and Kshetramade, 2008). Inter-jati "rivalries" often have very long histories and influence

both political and interpersonal relations (Srinivas, 1957).

The Indian state has institutionalized four caste categories into which jatis are sorted. The formerly untouchable Scheduled Castes (SCs) are at the bottom of the caste hierarchy, while the Other Backward Classes (OBCs) occupy the rung above them, and the Scheduled Tribes (STs) are poor indigenous groups only imperfectly incorporated into the traditional Hindu caste structure. The "general" category includes all other Indians, often considered "upper castes".

India has an extensive system of quotas centered around caste categories in both politics and bureaucratic hiring. In politics, SCs and STs have electoral districts or constituencies reserved for them where only members of those categories can run for office. An extensive literature has debated the effects of these reservations (Bhavnani, 2017; Bhavnani and Lee, 2018; Jensenius, 2017).A proportionate share of IAS positions is also reserved for SCs and STs and, since 1994, for OBCs. Bureaucrats from these groups have been found to perform better in the implementation of anti-poverty programs (Bhavnani and Lee, 2021). Importantly, all quotas are allocated to caste categories, not jatis. While the quota systems have meant that the Indian bureaucracy is roughly descriptive of the population in *caste category* terms, relatively educated jatis tend to be overrepresented within categories. Similarly, in politics, relatively large and educated jatis tend to be overrepresented among legislators from all caste categories. We focus on caste category for two reasons: shared jati is exceedingly rare (only 1.5% of all MP-DO dyads share jati), and, more importantly, our theory centers on supraordinate identities.[2]

3 Data, Hypotheses, and Empirical Strategy

3.1 Measuring Bureaucratic Delay: MPLADS

Cooperation between politicians and bureaucrats manifests across a variety of issue areas (Brierley, 2020). We focus on a single program that has the advantage of being both fairly transparent and of high salience to politicians: the Members of Parliament Local Area Development Scheme

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[2]Note that for our theory to hold, it is necessary that identities be observable. In India, the caste category of all IAS officers recruited since 2005 is posted on the internet as is the caste category of MPs who run in reserved constituencies. Even when this information is not publicly available, it is widely known.

(MPLADS). Each MP receives an annual budget of 50 million rupees ($680,000) to fund small-scale public works within their constituency.[3] MPs can use their allocation on a wide variety of projects, including the construction of roads, streetlights, social halls, and water pumps. Usefully, MPLADS projects, unlike most development programs in India, do not pass through multiple layers of bureaucracy, involving only MPs and district bureaucrats in project sanctioning. This allows for a clean evaluation of principal-agent cooperation.[4]

MPLADS projects, each one of which is labeled with a plaque bearing the MP's name, serve as a highly visible pork (Stokes et al., 2013). Politicians use their funds strategically, spending more when their districts are competitive (Keefer and Khemani, 2009) and when state legislators are copartisan (Bohlken, 2018). When reelection is unlikely, they also spend more on the rich and divert funds to themselves or their associates (Nath, 2014). Bureaucratic requirements for audits, physical inspections, and restrictions on grants to NGOs are thought to limit, but not eliminate this behavior.

MPs are reliant on the district bureaucracy to implement their projects. The bureaucracy plans projects and tenders and monitors contracts. The DO is almost always the designated "district authority" for MPLADS purposes.[5] The DO is responsible for sanctioning projects proposed by MPs. The permissible reasons for not sanctioning projects are few and narrow. Rejection is thus rare: over 99% of all projects are sanctioned. However, to ensure that the district administration does not delay projects indefinitely, the law imposes a set of deadlines on the district officer. Program rules state that proposed projects must be vetted within 45 days and sanctioned within 75 days. However, there is no internal mechanism to ensure bureaucratic

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[3]Before 2011-12, the allocation was 20 million rupees. From 2005 to 2023, the MPLADS scheme required that 15% and 7.5% of an MP's proposed projects target SC and ST-dominated localities, respectively. Our results are robust to subsetting to projects proposed prior to the imposition of this requirement in 2005 (see Appendix Table A2.5).

[4]Whereas most outcomes jointly produced by politicians and bureaucrats involve vast bureaucracies, the outcome we study is almost entirely shaped by DOs and MPs.

[5]Each MP must select a district within their constituency as the nodal district, which serves as the primary recipient and manager of all MPLADS projects. Recent data shows that roughly 90% of projects are implemented in the nodal district.

compliance, and 32% of sanctioned projects take longer than 75 days to approve (see Appendix Figure A2.2). On the other hand, many projects are approved quickly: 15% are sanctioned in a week or less.

We use the time until project sanctioning as our main measure of politician-bureaucrat co-operation. We operationalize this using a binary measure of whether a project was sanctioned within 75 days and a measure of the natural log of the number of days to sanction in supplemental tests (see Appendix Table A2.1 for summary statistics). We believe that our measure of whether a project was approved in 75 days is an excellent test of cooperation for three reasons. First, the bureaucrat is explicitly the agent of a specific politician, without any formal intermediation from other levels of the bureaucracy or political system. Second, quick project approval is a formal responsibility of the bureaucrat, and there are relatively few legal or technocratic reasons for delay. Finally, unlike project completion, which can easily be delayed by material factors outside the bureaucrat's control, approval times can be traced to the individual officer since it is a matter of the shuffling of paperwork – a relatively pure measure of red tape.

Data on MPLADS projects are supposed to be publicly available on the program website, however, the MPLADS system revamped its interface in recent years, and validation exercises suggest that the data on the current website are not comprehensive or reliable. This precludes us from including data from the most recent legislative session. Given these concerns, we use data collected by Rivera (2020) using the previous online portal (covering 2004-14, legislative sessions 14 and 15). We supplement these data with additional data provided by Bohlken (2018), which covers only Northern India from 1999 to 2004 for the 13th legislative session. Our results are robust to only analyzing the 14th and 15th legislative sessions, which include data for the entire country (see Appendix Table A2.8). The project-level variables vary slightly by source, but for all, we have the date of proposal, date of sanctioning, and project cost.[6]

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[6]A small number of projects are received by one DO and then granted by another after the first DO's transfer. We attribute these projects to the DO who approved them, with the time to approval being the time between their taking office and approval, but control for the number of days the project had been under consideration by the previous DO.

3.2 Measuring Politician and Bureaucrat Identity

We use two data sources to measure shared caste category between politicians and bureaucrats. First, for the caste category of MPs, we use data collected by the Trivedi Centre for Political Data, which identifies the caste category of 99.9% of MPs in our sample. Second, for the caste category of DOs, we use the dataset collected by Bhavnani and Lee (2021), which scrapes the caste category reported by each officer from official rankings at the time of selection. These data only include caste categories for arbitrary years and are imputed based on exam ranks for missing recruitment years. Our results are robust to the exclusion of officers for whom caste category was imputed (see Appendix Table A2.3). We also control for MP and DO jati, and the more elaborate process we use to identify jati is detailed in the Appendix.

Politicians and bureaucrats are paired using constituency and district names.We use the executive record sheet for every IAS officerto identify DO postings, which includes the exact dates for each posting in an officer's career.Through a careful process of manual matching, we associate all projects with the residing district officer at the time of project submission.[7] In total, we observe data for 1,297 unique MP-DO dyads across three legislative sessions, 529 parliamentary constituencies, and 331 districts.

3.3 Measuring Histories of Political Mobilization and Hypothesizing Conditional Effects

We measure histories of political mobilization at the state level in two ways. First, we characterize states based on whether they adopted reservations for OBCs in state and central hiring and university admissions before or after the 1994 national government mandate. While reservations for SCs and STs have existed since the 1940s, reservations for OBCs in these institutions varied across states and only became nationally mandated in 1994. The early implementation of these policies required cross-jati, state-level coalitions organized based on caste category.

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[7]The manual match entailed confirming that district names and constituency-to-district matching were constant across data sets. In some instances, two DOs reported holding the same position for a short period of time. We validated these data by visiting district websites and determining the correct district officer in charge.

Reservation policies implemented prior to this mandate resulted from autonomous movements and popular demand, whereas states that had not instituted these reservations prior to 1994 had the reservation policy imposed by the national mandate. Further, these policies deepened the institutionalization of common pool resources (affirmative action) based on caste category. In accordance with our theory we expect the solidarity needed to preemptively demand OBC reservations will persist in politician-bureaucrat interactions in these states today. In states that had these reservations imposed by national mandate, we expect that the consequent contestation over the limited resources provided by reservations will breed norms of competition between subordinate groups because of a lack of shared history of solidarity. These norms are expected to manifest in present-day politician-bureaucrat behavior. Even when there is rivalry with caste category, we expect this competition to be between subordinate groups, suggesting subordinate group (jati) solidarity in all contexts. Additionally, while the 1994 reservations were specific to OBCs, we expect these norms to define all caste categories' behavior in these states for two reasons: solidaristic movements to demand OBC reservations reflect/coincide with a more general culture in these states of category-based solidarity (as captured in our next measure), and the imposition of reservations on one group necessarily limits resources to all groups, creating the same incentives for competition across the board. This yields the following three hypotheses:

H1a: Caste category congruence will hasten project sanction times in states that implemented OBC reservations prior to 1994.

H1b: Caste category congruence will slow project sanction times in states that had OBC reservations imposed in 1994.

H1c: Jati congruence will hasten project sanction times in all states.

Second, we leverage a widely used geographic conception of regions in India, which has been noted by many scholars to define both collective identity and political mobilization (Singh, 2015; Jaffrelot, 2003; Rudolph, 1984; Srinivas, 1960). The principal regional differences pertaining to political mobilization are between the North (often referred to as the BIMARU states) and the South. In Southern states, caste categories have been the basis of successful, historic collective action. In the North, caste category-based political mobilization has been fraught and riven by factionalism. We, therefore, categorize Indian states into three regions: BIMARU states (Bi-

har, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Uttar Pradesh, and Uttarakhand), southern states (Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu), and all other states. These regional differences in caste culture strongly (but imperfectly) correlate with our prior measure of mobilization around OBC reservations (as shown in Table 2), further validating the coherence of our measures. Our theoretical prior is that southern states will demonstrate coethnic solidarity and BIMARU states will exhibit coethnic rivalry, with no theoretical expectations over other states which are a heterogeneous group. This yields the following three hypotheses:

H2a: Caste category congruence will hasten project sanction times in Southern states.

H2b: Caste category congruence will slow project sanction times in BIMARU states.

H2c: Jati congruence will hasten project sanction times in all states.

3.4   Empirical Specifications

Our empirical aim is to estimate the heterogeneous effect of caste category congruence on project approval times by political history.[8] We employ four identification strategies and take greater confidence in our results given the general robustness of these four approaches.

Our preferred specification uses OLS models with district, fiscal year, and session fixed effects. District fixed effects capture the unit of bureaucratic assignment, and session fixed effects capture the politician's term. Fiscal year fixed effects account for other potential time-varying confounders. Note that multiple bureaucrats can serve within a district during each Parliamentary session, and district officers can serve more than one MP at a time (in our data, 20% of district officers serve more than one MP). We are thus leveraging variation across bureaucrats in the same district for each politician and variation across politicians whose constituency overlaps a district to estimate the effect of dyad-level covariates such as caste category congruence conditional on temporal and regional characteristics that might affect sanctioning time.

Our core hypothesis pertains to the differential effect of shared caste category based on regional variation in histories of political mobilization. We, therefore, start by estimating the

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[8]We do not claim to identify the causal impact of political history but simply estimate how such histories moderate the effect coethnicity on politician-bureaucrat interactions.

following two models:

$$P(Approval)_{ijp} = \alpha + \beta C_{ij} + \gamma J_{ij} + \delta \mathbf{X_{ijp}} + \theta_d + \eta_t + \zeta_s + \epsilon_{ijtdp} \tag{1}$$

$$P(Approval)_{ijp} = \alpha + \beta C_{ij} + \zeta(C_{ij} \times \alpha_r) + \alpha_r + \gamma J_{ij} + \delta \mathbf{X_{ijp}} + \theta_d + \eta_t + \zeta_s + \epsilon_{ijtdp} \tag{2}$$

where the outcome—a dummy for whether a project (p) in a district (d) proposed by an MP (i) during parliamentary session (s) at time (t) is approved by the DO (j) within the rule-mandated 75 days (Y)—is modeled as a function of C and J, which are set to one when the caste category and jati of the MP and DO match, respectively.[9] To explore regional variation in the effects of caste, we interact caste category congruence with regional dummies (α_r). We define regions in two ways: whether a state adopted OBC reservations prior to the 1994 national mandate and by generally accepted regions known for different political histories (BIMARU states, Southern states, and all other states). When we use geographic region as the conditioning variable, we omit Southern states allowing us to compare the effects of caste category congruence on project approvals in BIMARU and Southern states (for which we have theoretical priors).

As noted, the equations control for district, year, and session fixed effects (θ_d, η_t, and ζ_s). A vector of other controls ($\mathbf{X}$) includes measures of project complexity (the project cost), bureaucratic load (the log number of pending projects on a DO's desk), and, if applicable, the log number of days that the project sat on the previous DO's desk. Accounting for project characteristics outside of the control of the DO allows us to more precisely estimate DO behavior. It also includes indicators for MP and DO caste, jati, and gender, as well as an indicator for whether MPs are politically aligned with the state's Chief Minister. The latter control is important given the importance of Chief Ministers in the promotion and transfer of DOs. Standard errors are clustered at the MP-DO dyad level, since this is the unit of our claims, however, our results are robust to clustering the standard errors at the state-year level and the dyad and state-year level (see Appendix Tables A2.6 and A2.7).

We demonstrate the robustness of our findings to three additional approaches that more precisely address the assumptions of causal inference. Identifying the causal effects of politician-

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[9]Since jati is missing for either the MP or DO in 4.6% of dyads, we include an indicator for missing jati so that the omitted category is non-congruent jati dyads.

bureaucrat identity congruence would require the two to be randomly paired. Our main specifications approximate this by controlling for a rich set of fixed effects and other politician and bureaucrat attributes. Still, endogeneity remains a theoretical possibility. We, therefore, leverage quasi-random variation in the assignment of bureaucrats to posts.First, following the identification strategy in Bhavnani and Lee (2018) and Bhavnani and Lee (2021), we narrow the sample to four states (Andhra Pradesh, Karnataka, Rajasthan, and Uttar Pradesh) with 34% of the country's population with documented quasi-random assignment of IAS officers to districts. For example, "IAS officers from the 2013 Andhra Pradesh cadre were assigned in alphabetical order of their names to districts that were ordered based on their serial number" (Bhavnani and Lee, 2018, 78). Second, we subset our analysis to early-career officers (those within the first five years of service) across all states since such officers are less likely to be known by politicians and, therefore, purposefully selected. Third, we combine these approaches by focusing on early-career officers in quasi-random assignment states. Figure 1 provides evidence to support that each of these strategies yields balance on observable characteristics .[10] These strategies, however, limit our sample and therefore power to detect effects.

A primary concern could be that MPs selectively choose bureaucrats or selectively target project proposals. We address the former by examining three possible downstream consequences of our findings that might undermine our identification strategy in Appendix Table A4.1. We show that caste congruence conditional on region does not change the probability of the selection of a bureaucrat, the length of bureaucratic terms (and therefore the probability of being transferred), nor that our results are conditioned by the timing of national or state elections. These findings are consistent with the fact that DOs serve multiple principals (including multiple MPs and state legislators), so MPs do not have perfect discretion in DO transfers. However, MPs do not have discretion over which DO they send their projects to, reducing concerns of selective targeting of proposals. If an MP's constituency spans multiple districts, one district is assigned as the nodal district, and all proposals must be sent to the DO of that district. To further remove the concern of selective targeting, we confirm the robustness of our results to subsetting to Parliamentary constituencies with only one district.

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[10]We are also able to reject the tests for the joint significance for the variables in the three samples.

Figure 1: Balance tests for caste category congruence against district and MP characteristics
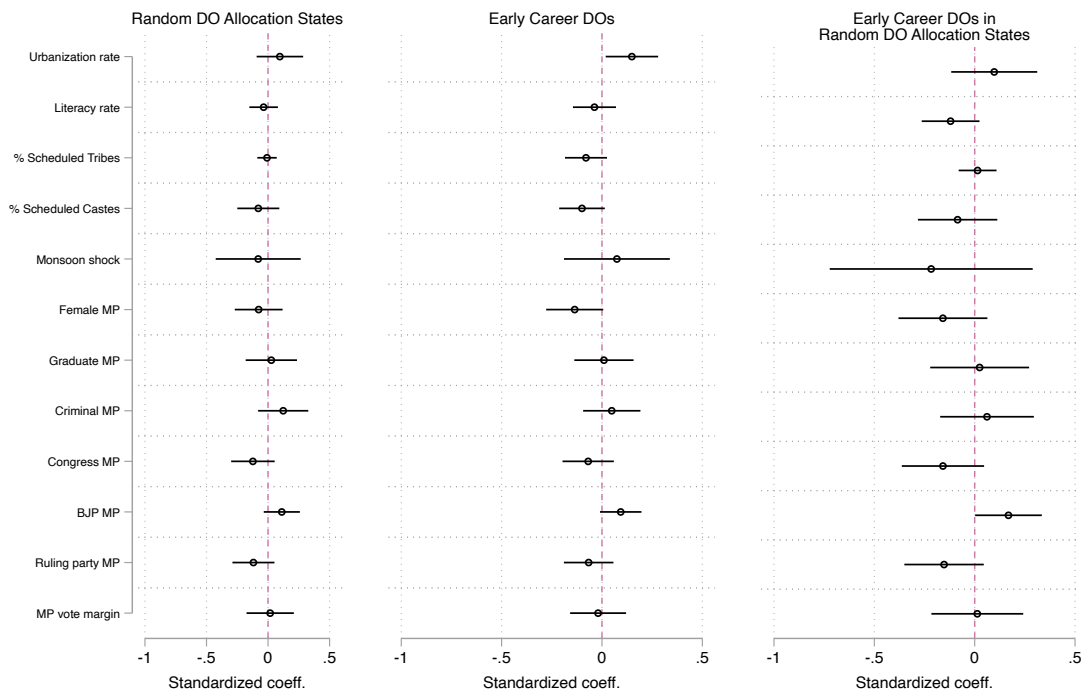
Note: All models include dyad clustered standard errors and session, fiscal year, and district fixed effects. Models also include an indicator for jati congruence and whether Jati is missing.

4 The Conditional Effect of Shared Caste Category on Performance

Panel A of Table 1 examines the overall relationship between caste category congruence and whether a project is sanctioned within the 75-day statutory limit. The first column controls for session and fiscal year fixed effects, the second for district fixed effects, and the third for all three. The fourth column subsets to data from the four states where officers are quasi-randomly assigned to districts, the fifth to early-career officers, and the last to early-career officers from the four states with documented quasi-random district assignments. Across these specifications, the average effect of caste category congruence is small and statistically indistinguishable from zero. Jati congruence, however, is associated with a 14 percentage point greater probability of project approval (in the third, saturated model), and this effect holds in magnitude when subsetting to quasi-randomly assigned DOs, though the results are noisier given the reduced

sample size. That said, jati congruence is rare: only 1% or 1,558 projects were proposed by 1.4% or 18 MP-DO dyads that share jati.

Table 1: Caste Congruence and Bureaucratic Performance

	Sanctioned in 75 Days					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A:						
Caste Category Congruence	-0.009	-0.031	-0.036	-0.005	-0.006	0.017
	(0.022)	(0.020)	(0.019)*	(0.024)	(0.021)	(0.028)
Jati Congruence	0.005	0.168	0.135	0.208	0.146	0.315
	(0.106)	(0.075)**	(0.069)**	(0.172)	(0.077)*	(0.201)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.184	0.317	0.323	0.299	0.326	0.316
Panel B:						
Caste Category Congruence	0.017	0.001	0.001	0.088	0.025	0.122
	(0.030)	(0.027)	(0.026)	(0.036)**	(0.028)	(0.045)***
Caste Category Congruence X Post-1994 Reservation	-0.067	-0.064	-0.071	-0.135	-0.067	-0.164
	(0.039)*	(0.033)*	(0.032)**	(0.043)***	(0.036)*	(0.052)***
Jati Congruence	0.013	0.184	0.153	0.220	0.151	0.299
	(0.102)	(0.075)**	(0.069)**	(0.169)	(0.077)*	(0.201)
ME of Caste Congruence in Post-1994 Reservation States	-0.050	-0.062	-0.070	-0.047	-0.042	-0.042
	(0.029)*	(0.024)***	(0.023)***	(0.028)*	(0.026)	(0.032)
N	148339	148337	148337	54721	113296	42276
R-Squared	0.190	0.318	0.324	0.301	0.327	0.318
Panel C:						
Caste Category Congruence	0.024	0.044	0.056	0.088	0.082	0.122
	(0.044)	(0.031)	(0.031)*	(0.036)**	(0.037)**	(0.045)***
Caste Category Congruence X BIMARU	-0.112	-0.141	-0.160	-0.135	-0.137	-0.164
	(0.052)**	(0.035)***	(0.036)***	(0.043)***	(0.042)***	(0.052)***
Jati Congruence	0.009	0.170	0.139	0.220	0.142	0.299
	(0.101)	(0.074)**	(0.069)**	(0.169)	(0.079)*	(0.201)
ME of Caste Congruence in BIMARU	-0.088	-0.098	-0.104	-0.047	-0.055	-0.042
	(0.029)***	(0.027)***	(0.027)***	(0.028)*	(0.027)**	(0.032)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.186	0.318	0.324	0.301	0.327	0.318
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South.

Panel B of Table 1 reports the conditional effects of caste category congruence across states

based on whether they adopted OBC reservations before or after the 1994 mandate, and Panel C compares the effects of caste category congruence across BIMARU and Southern states.We find evidence of both theorized dynamics of solidarity and rivalry. The marginal effect of caste category congruence in states with histories of caste category mobilization in both panels is the coefficient on caste category congruence. We find evidence of a solidaristic relationship (a positive effect of caste category congruence on project sanctioning) in Southern states, as shown in Panel C. Caste category congruence is associated with 5 to 12 percentage points more on-time project approvals in the South depending on specification. We observe no effect of caste category congruence, however, in states that instituted OBC reservations prior to 1994, except when subsetting to states with random DO allocation (in which pre-1994 reservation adoption perfectly aligns with the South). States in all three regions adopted OBC reservations prior to 1994. The null effect in these specifications may suggest that the adoption of these policies is an imperfect proxy for histories of political solidarity and that geographic region better captures the multi-faceted histories of political mobilization, which we examine in the next section.

We also find strong evidence of a rivalrous relationship (a negative effect of caste category congruence on project sanctioning) in regions of India without histories of caste category political mobilization. The marginal effect of caste category congruence in these states is reported at the bottom of each panel. In both states that had OBC reservations imposed by national mandate (post-1994) and northern BIMARU states, caste category congruence is associated with a significantly lower probability of on-time sanctioning by 4 to 10 percentage points. The size and direction of this effect are similar in all models of both panels, though the result is noisier when subsetting to states with random DO allocations.

The difference in the marginal effects of caste category congruence across these regions is also statistically significant: caste category is associated with a 7 to 16 percentage point difference in the probability of on-time sanctioning between states that adopted reservations before and after the national mandate depending on the sample considered and a 13 to 16 percentage point difference between Southern and BIMARU states. This provides strong evidence that the effect of caste category congruence is conditioned by region. In Appendix Table A3.2, we provide evidence that both rivalry and solidarity dynamics are even stronger when considering highly consequential constituencies: those where the MP is from the same party as the Chief

Minister.[11]

Our results are robust to using the (log) number of days to project approval as the outcome (see Appendix Table A2.2), estimating these effects with a Cox proportional hazard (see Appendix Table A2.4), removing states one by one (see Appendix Figure A2.1), subsetting to Parliamentary constituencies with only one district (see Appendix Table A2.9), and collapsing to the dyad level to ensure equal weighting across dyads (Appendix Table A2.10). Additionally, Appendix Table A3.1 documents that these effects are not driven by any one specific caste category but hold for both GEN and OBC category groups (as predicted), which comprise more than 75% of DOs and MPs and 92% of caste congruent dyads.[12]

These results demonstrate clearly that the effect of coethnicity is conditioned by region and that, as expected, in regions with histories of political mobilization, we observe solidarity among coethnics, and in regions without such histories but with imposed common pool resource constraints, we observe rivalry among coethnics. Differences across theoretically defined regions are large and generally significant, and these differences are consistent with our theoretical priors.

In the next section, we detail these regional histories more extensively and provide evidence to support the argument that these differential results by region align with differing histories of political mobilization, as has long been highlighted in qualitative accounts. However, Appendix

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[11]We observe that caste category congruence improves project sanctioning significantly more in constituencies where the MP and Chief Minister are aligned. Further, the conditional effects of caste category congruence are stronger in constituencies where the MP and Chief minister are aligned: Aligned constituencies in the south exhibit stronger solidarity, and aligned constituencies in the north exhibit stronger rivalry. Partisan alignment has been shown to increase the flow of pork projects to constituencies and thus signal more consequential constituencies (Bohlken, 2018).

[12]In this table, the difference between the coefficients for GEN and OBC congruence (the categories comprising the majority of congruent dyads) is not statistically significantly different though the coefficient for OBC congruence is noisier given fewer OBC DOs and MPs. The low number of SCs and STs in the bureaucracy suggest that our results are not driven by reserved seats for MPs.

Figure A3.1 further demonstrates that our results are unlikely to be the result of random state agglomeration into regions: out of 1,000 simulations where states were randomly allocated to regions of the same size as those in our analysis, the differential effect of caste congruence in the placebo pre- and post-1994 reservation states attained a value as large as what we observe in only 9.6% of simulations and the placebo BIMARU and Southern regions attained a value as large as what we observe in only 3.6% of simulations. Given that our coding of regions is considered standard in the literature, we believe this strongly suggests that it would be difficult to manipulate states and generate estimates similar to those reported in Table 1.

4.1 The Historical Roots of Coethnic Rivalry and Solidarity

Why does caste category congruence between politicians and bureaucrats improve performance in some regions but worsen performance in others? We rely on rich qualitative accounts to argue that historical differences in political mobilization across these regions likely underlie the observed differences in identity-based behavior. We validate these regional categorizations using a series of quantitative indicators of political mobilization and rule out alternative explanations for regional differences.

The history of caste representation in Indian political life differs by region. In Southern and Western India, Brahmins (upper castes) were historically a small portion of the population, and missionary education, among other factors, created an educated elite within subaltern groups. Beginning in the colonial period, these elites mobilized to gain social recognition and state resources for their jati (Lee, 2019). Given the small size of jatis, broader coalitions of low-status groups quickly organized themselves: "Non-Brahmin" movements proliferated throughout the South and West, with Maharashtra, Tamil Nadu, and Karnataka having particularly notable organizations that successfully contested elections. Meanwhile, a variety of organizations and parties were formed in this period to represent Scheduled Castes, with B. R. Ambedkar's Maharashtra-based Scheduled Castes Federation being the best known. Other movements sought to broaden jati identities and merge several groups of similar status, a process especially marked in Southern India, where Dalits began to define themselves as the original inhabitants of the state (i.e., "Adi-Andhras") rather than using their former jati names.

These subaltern movements are widely thought to have been stronger in Southern India

than in the North. These differences are reflected in the fragmentary statistics available on the growth of caste organizations in the colonial period. Using data from Ahuja (2019), we find that among colonial-era Dalit organizations, the ratio of narrow jati associations to organizations focusing on Dalits as a whole was 0:5 in Tamil Nadu and 2:30 in Maharashtra, but 2:1 and 2:2 in the northern states of Uttar Pradesh and Bihar. Lee (2019), examining petitions by Dalits to the colonial census authorities for reclassification of their caste at the 1931 census, found that the ratio of petitions demanding a common name for all Dalits to those demanding a new name only for their jati was 7:0 and 4:2 in the southern provinces of Hyderabad and Madras and 0:1 in both Uttar Pradesh and Bihar. In both instances, the pattern is clear: whereas lower castes mobilized as jatis in the North, they tended to mobilize as broader caste groups in the South.

These largely Southern movements were successful in achieving caste category representation and concessions. While job and educational reservations for OBCs were not implemented nationally until 1994, in the states where broad lower caste movements were strongest, OBCs were guaranteed a portion of government hiring and education significantly earlier. All states of the old Bombay and Madras Presidencies had OBC reservations by the 1970s, but only two northern states had OBC reservations at that time (Lee, 2019).[13] These reservations were buttressed by a strong presence of politicians from subaltern groups within the political system, including all the major parties (Jaffrelot, 2003).

Table 2 shows the strong association between the early implementation of reservation and a relatively small presence of upper caste politicians in politics in the 1960s, with both of these traits being higher outside the Northern BIMARU states.

In the North of India, fewer low-caste groups had an educated elite, and the presence of the upper castes was larger. For most of the two decades after independence, politics in these states was a conflict between factional groups of upper-caste politicians, often associated with particular jatis (Suryanarayan, 2019). The rivalries between Kayasthas and Bhumihars in Bihar and Rajputs and Brahmins in Uttar Pradesh were especially fierce (Roy, 1968; Brass, 1981). Meanwhile, the growth of lower caste organizations was slow (Lee, 2019).

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[13]Bihar and Punjab. Uttar Pradesh's 1970s reservation system was overturned in the courts.

Table 2: Caste Category Mobilization in India by State

State	Year Reservation Began	Post 1994 OBC Reservation	Within Category Between Jati Inequality	% Upper Caste MLAs in 1967	OBC Subquota Year	% of 2019 Vote for Encompassing Ethnic Parties	% of 2019 Vote for Narrow Ethnic Parties	% Reporting Caste Category when asked Jati
	1	2	3	4	5	6	7	8
BIMARU/Northern states								
Bihar	1978	0	7.9	44.8	1978	0.0	37.2	0.7
Chhattisgarh	1994	1	33.0	See MP		0.0	2.3	0.6
Jharkhand	1978	0	37.5	See Bihar		0.0	0.0	2.5
Madhya Pradesh	1994	1	33.5	44.9		0.0	2.4	5.2
Rajasthan	1994	1	30.4	46.8		0.0	0.0	1.2
Uttarakhand	1994	1	24.9	See UP		0.0	4.5	3.5
Uttar Pradesh	1994	1	37.5	43.3		0.0	37.5	1.3
Southern states								
Andhra Pradesh	1947	0	20.7	5.9	1970	39.6	0.4	0.2
Karnataka	1977	0	24.0	8.8	1977	0.0	9.7	14.1
Kerala	1964	0	17.2	40.0		0.0	0.0	0.3
Tamil Nadu	1947	0	27.6	3.0	1989	51.2	0.5	11.2
Other states								
Assam	1994	1	27.9	27.0		8.2	0.0	4.1
Gujarat	1978	0	30.3	40.0		6.5	0.0	1.8
Haryana	1991	0	22.3		1995	0.0	5.6	2.1
Himachal Pradesh	1994	1	13.3			0.0	0.0	14.8
Maharashtra	1947	0	33.0	5.9	1964	0.0	23.5	2.0
Orissa	1994	1	31.5	35.0		0.0	0.0	9.9
Punjab	1964	0	17.6			27.8	3.5	9.6
West Bengal	1994	1	34.7	40.0		0.0	0.0	1.4

Notes: Small states and union territories are not included for reasons of space. Figures for Orissa in column 2 are for 1974. The data for columns 1 and 5 are from Lee (2021), and for column 4 are from Jaffrelot and Kumar (2012). The numbers in columns 6 and 7 were calculated using data from the Election Commission of India and Thachil and Teitelbaum (2015). The numbers in columns 3 and 8 are based on the 2015/16 National Family Health Survey. The survey data uses the Hindu population over 18.

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This north-south difference in the political salience of caste category has been widely noted. Rudolph (1984, 79) noted that Northern regions with more upper castes "seem to be less susceptible to horizontal mobilizations from below of ritually deprived classes" and there exists less "of a sense of community and common interest" among the lower castes. This differentiation between horizontal solidarities between castes of similar status and vertical links between lower caste jatis was originally developed by Srinivas (1960), though he did not directly discuss regional differences. Many authors have also described regional differences in the salience of the OBC category, with the south being precocious in this regard relative to the north Jaffrelot (2003). And Singh (2015) documents substantial variation in collective identity between states in the North and those in the South of India.

Like their southern counterparts, Northern politicians often appeal to caste categories, however, in practice, the lower caste politicians that did rise to power in the North often focused on a single jati rather than the whole category. The Bahujan Samaj Party, for instance, claimed to represent all SCs but was only successful in areas with large populations of the Chamar caste (Chandra, 2007). This fragmentation fomented the deep-seated rivalries among subaltern politicians over leadership positions and among ordinary caste members over "hogging" of the benefits of reservation. In Bihar, Yadav and Kurmi politicians are rivals for leadership of the OBC category, while in Uttar Pradesh, Yadavs and Lodhs are rivals.

The same dynamics of intra-category rivalry appear in the South. In Andhra Pradesh, for instance, "Madigas, the most numerous Dalit caste, feel that the benefits of reservation have been cornered by the more advanced Mala caste, another prominent Dalit community" (Pathak, 2013). However, the long history of joint political action against the upper castes has made such divisions less common and less politically salient. The Malas and Madigas, for instance, have tended to vote relatively similarly, while in the Hindi belt, intra-category splits in partisanship are often wide (Mishra, Attri and Mehta, 2014). One of the best-known intra-category conflicts in the south is the struggle between the general category Kammas and Reddys. Srinivas (1957)'s (1957: 538) explanation for the Kamma-Reddy rivalry, that "the two castes fell apart after pushing the Brahman[s] out," is a succinct statement of the logic of our theory—a common political project and ethnic other can unite disparate groups, but rivalries can also drive them apart.

One indicator of these types of rivalries is the presence of parties based on jati. Thachil

and Teitelbaum (2015) code the degree to which 13 ethnic political parties rely on the vote of a few jatis. This enables the authors to classify ethnic parties whose support is heavily concentrated within few jatis as "narrow," and those whose support draws on broader caste category, regional or linguistic identities as "encompassing." As Table 2 shows, narrow ethnic parties are most successful in the Northern BIMARU states while encompassing ethnic parties are more successful in southern states.

Yet another indicator of these dynamics is the proportion of people citing category when asked for their "caste" identity. We coded the self-chosen answers to the "what is your caste or tribe" question on the 2015/16 National Family Health Survey to identify those who gave their caste category as the answer. Given that the wording of the question was clearly intended to elicit jati, the base level of category identification is low. However, it is four times more likely outside the northern BIMARU states: 0.56% vs. 0.15% in the BIMARU states.[14]

Qualitative accounts and descriptive evidence document how caste category is a more common source of popular identification in the South than in the North and there is a visible correlation between region and histories of political mobilization. Our core results in Table 1 align with these expectations.In the appendix, we further show the limited explanatory power of several alternative explanations for why observed effects may differ across regions, including that our results on caste category congruence are driven by underlying differences in project sanctioning by differently ranked actors (Appendix Table A3.3), by differential distributions of caste groups (Appendix Figure A3.2), by the timing of national and state elections (Appendix Tables A3.6 and A3.7), or by regional histories of service delivery (and therefore development) (Appendix Table A3.4 and A3.5). We take the validity of our regional categories to both qualitative and descriptive evidence as evidence that strongly suggests the role of historical patterns of political organization in shaping variation in patterns of identity-based interactions among politicians and bureaucrats.

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[14]The difference is even higher when we focus on OBCs, or if Scheduled Tribes are excluded.

5 Mechanisms of Rivalry and Solidarity

How do histories of political mobilization produce the observed patterns of rivalrous and solidaristic politician-bureaucrat behavior at the individual level? We argued that such histories could shape present-day behavior through the inculcation of preferences, the development of technologies, socialization, and the establishment of norms of coordination (equilibrium selection). While we are unable to definitively determine which of these mechanisms causes cooperation or competition among bureaucrats and politicians, we provide evidence to rule out the role of differential preferences, technologies, and socialization. In light of the deep rooted histories that condition our effects, we believe this suggests that politicians and bureaucrats in different regions may operate in different normative environments with different rules of optimal strategy selection.

First, looking only at data for BIMARU states provided by Bohlken (2018), Table 3 considers the types of projects that are submitted (Panel A) and approval times for each project type (Panel B).[15] The results show that caste category congruent DOs, by and large, receive projects of similar types to non-congruent DOs. Caste category congruent DOs are marginally more likely to receive projects about education and funerals and marginally less likely to receive projects focused on electrification. Additionally, the negative relationship between coethnicity and on-time project sanctioning holds for nearly all project types in BIMARU states (recreation and funerals being the only exceptions). If the rivalrous relationship between coethnic politicians and bureaucrats in BIMARU states was driven by opposing preferences, we would expect the proposed types of projects to differ and disproportionate sanctioning of certain project types, neither of which are observed. We take this as suggestive evidence that differential preferences are not the main underlying mechanism of the observed coethnic penalty in the north, though we cannot evaluate whether shared preferences underlie solidarity in the south given data limitations.

Second, using data from all states, we consider whether shared technologies explain our observed effects.[16] The first four columns of Table 4 estimate the conditional relationship of

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[15]We coded roughly 55% of projects into nine categories, and all remaining projects are included in other.

[16]Data on DO language and state of origin are provided by Bhavnani and Lee (2021).

Table 3: Caste Congruence and Types of Projects Proposed in BIMARU States

Panel A: Project Type Received

	Roads	Water	Education	Recreation	Sewer	Electricity	Walls	Funerals	Other
Caste Category Congruence	0.003	0.018	0.016	-0.003	0.001	-0.010	-0.004	0.010	-0.012
	(0.020)	(0.014)	(0.009)*	(0.006)	(0.006)	(0.006)*	(0.005)	(0.004)**	(0.022)
N	16836	16836	16836	16836	16836	16836	16836	16836	16836
R-Squared	0.132	0.287	0.095	0.107	0.077	0.253	0.095	0.089	0.204

Panel B: Santioned in 75 Days Conditional on Project Type

	Roads	Water	Education	Recreation	Sewer	Electricity	Walls	Funerals	Other
Caste Category Congruence	-0.067	-0.031	-0.090	0.028	-0.072	-2.000	-0.092	0.025	-0.085
	(0.032)**	(0.053)	(0.042)**	(0.070)	(0.081)	(0.000)***	(0.059)	(0.090)	(0.031)***
N	4128	2086	1706	873	376	269	585	252	7462
R-Squared	0.265	0.378	0.282	0.408	0.443	0.651	0.397	0.350	0.246
States	BIMARU	BIMARU	BIMARU	BIMARU	BIMARU	BIMARU	BIMARU	BIMARU	BIMARU
Session Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fiscal Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and control for MP and DO caste category, MP and DO gender, and Chief Minister-MP party alignment. Data are from Thomas (2018) and include only BIMARU states.

politician-bureaucrat coethnicity by region, subsetting to dyads that do and do not speak the same language (which we define based on whether the DO speaks the language of the state in which they work) and those that are and are not from the same state (which we define based on whether the DO is placed in their state of birth). The results in Table 4 reveal that shared language and state of origin do not fully explain our results, as the relationship between coethnicity and on-time sanctioning is similar when language and state of origin are and are not shared. In fact, contrary to the expectation that shared technologies can enable coethnic solidarity, Panel B demonstrates that solidarity is more likely in the South when dyads do not share the same language and are not from the same state, supporting an interpretation that Southern solidarity is not rooted in shared technologies but by a set of norms defining acceptable patterns of behavior. We observe the opposite effect in the North: rivalry is strongest when dyads do not share the same language and are not from the same state.

Table 4: Caste Category Congruence Relationship Not Conditioned by Language or State Identity or Region of Birth

	Sanctioned in 75 Days					
Panel A:	MP-DO Don't Share Language	MP-DO Share Language	MP-DO Not From Same State	MP-DO From Same State	MP-DO From Pre-1994 Res. State	MP-DO From Post-1994 Res. State
Caste Category Congruence	0.058	0.011	-0.004	0.096	-0.005	-0.072
	(0.039)	(0.046)	(0.034)	(0.089)	(0.041)	(0.081)
Caste Category Congruence X Post-1994 Reservation	-0.125	-0.144	-0.060	-0.037	-0.079	-0.034
	(0.053)**	(0.052)***	(0.043)	(0.063)	(0.054)	(0.080)
Jati Congruence		0.174		0.260	0.105	0.003
		(0.097)*		(0.116)**	(0.237)	(0.081)
ME of Caste Congruence in Post-1994 Reservation States	-0.067	-0.132	-0.064	0.059	-0.084	-0.107
	(0.039)*	(0.032)***	(0.029)**	(0.061)	(0.041)**	(0.040)***
N	63957	84377	112895	35438	77717	57889
R-Squared	0.400	0.310	0.345	0.353	0.385	0.347
Panel B:	MP-DO Don't Share Language	MP-DO Share Language	MP-DO Not From Same State	MP-DO From Same State	MP-DO From Southern State	MP-DO From BIMARU State
Caste Category Congruence	0.128	-0.040	0.107	0.094	0.010	0.160
	(0.049)***	(0.056)	(0.043)**	(0.097)	(0.054)	(0.103)
Caste Category Congruence X BIMARU	-0.204	-0.089	-0.219	-0.046	-0.168	-0.320
	(0.084)**	(0.057)	(0.054)***	(0.076)	(0.075)**	(0.105)***
Jati Congruence		0.160		0.239	0.053	0.045
		(0.098)		(0.120)**	(0.085)	(0.107)
ME of Caste Congruence in BIMARU	-0.076	-0.128	-0.112	0.048	-0.158	-0.160
	(0.066)	(0.034)***	(0.035)***	(0.064)	(0.052)***	(0.040)***
N	64422	84728	113376	35773	74246	74901
R-Squared	0.403	0.310	0.348	0.353	0.381	0.332
States	All	All	All	All	All	All
DOs	All	All	All	All	All	All
Session Fixed Effects	✓	✓	✓	✓	✓	✓
Fiscal Year Fixed Effects	✓	✓	✓	✓	✓	✓
District Fixed Effects	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South.

Finally, we evaluate whether institutionalized norms of cooperation encourage solidarity in some regions and rivalry in others. Institutionalized norms can be enforced through internalized attitudes of acceptable behavior (Akerlof and Kranton, 2000) or through explicit social sanctions for norm-deviant behavior, most often referred to as equilibrium selection (Milgrom, North and Weingast, 1990). We examine the role of internalized norms and early socialization by considering whether our observed results are explained by the bureaucrat's region of birth. The

final two columns of Table 4 subset the sample to DOs that were and were not born in states that adopted OBC reservations prior to the 1994 mandate (Panel A) and to DOs born in the South and North (Panel B). In both panels, we see patterns of rivalry regardless of state of birth, suggesting that socialization is not the driver of our main effects.

This leaves equilibrium selection. Although we are unable to directly test for this mechanism, we take the evidence in Table 4 that the rivalrous relationship between coethnic politicians and bureaucrats persists in states with imposed reservations and in BIMARU states even after accounting for shared technologies and socialization as most likely supporting an argument that cooperation and competition persist because of the rules of the identity game. Given the deep-rooted histories that condition the effect of coethnicity, we believe that such norms of cooperation align with our findings. Additionally, Table 1 reveals that the observed patterns of rivalry and solidarity exist at the same level among bureaucrats in their first five years of service, suggesting that these relationships do not necessitate time to develop but are exhibited shortly after entering a bureaucratic post. We leave it to future work to more deeply evaluate the role of institutionalized norms across these regions and determine whether the mechanisms of rivalry mirror the mechanisms of solidarity, as explored in Habyarimana et al. (2007).

6   Conclusions

In much of the world, bureaucrats are formally the supplicants of politicians, and bureaucracies are designed to make this control real. However, even where bureaucrats have no formal autonomy, their willingness to overcome red tape may vary considerably. In the context of the constituency development funds provided to India's MPs, shared identity plays an important role in shaping bureaucratic behavior, with shared caste category, a supraordinate, and historically constructed identity, having variable effects. The results complement existing work on the institutional predictors of bureaucratic subversion by defining the role of identity. The results have implications for the study of the effect of ethnic diversity on institutional quality.

The second implication of our findings is that shared identity does not always improve outcomes, and the balance between solidarity and rivalry can be influenced by political action. We find that politicians and bureaucrats are more likely to cooperate in hastening bureaucratic outcomes in states with successful histories of caste category mobilization. However, and even

more robustly, in states with less successful histories of caste category mobilization, rivalry dominates, and congruent bureaucrats clear red tape more slowly. We show that these behaviors coincide with differential histories of political mobilization in pursuit of common pool resources. The result echoes existing findings that broad identities can be made more or less salient relative to narrow ones through political effort and that these changes can persist. It extends this literature by showing that shared identity can have negative effects on performance due to rivalry and that the effects of identity mobilization can extend to the bureaucracy.

The paper also contributes to the literature on South Asia in two respects. First, it provides the first systematic evidence that bureaucratic behavior in India is shaped by caste. Expanding on accounts predicting bureaucratic performance as a result of "quality" and incentives, it hints at the role of personal factors such as identity in the networks of influence that link politicians and bureaucrats and run through the Indian state. Second, it provides evidence for how caste politics operate differently in different parts of the country and why caste-based self-assertion may have a different influence on state performance in different parts of the country.

References

Ahuja, Amit. 2019. *Mobilizing the marginalized: Ethnic parties without ethnic movements.* Oxford University Press.

Akerlof, George and Rachel Kranton. 2000. "Economics and identity." *The quarterly journal of economics* 115(3):715–753.

Alesina, Alberto, Reza Baqir and William Easterly. 1999. "Public Goods and Ethnic Divisions." *The Quarterly Journal of Economics* 114(4):1243–1284.

Arora, Ramesh and Rajni Goyal. 1995. *Indian public administration: institutions and issues.* New Age International.

Bhavnani, Rikhil. 2017. "Do the effects of temporary ethnic group quotas persist? Evidence from India." *American Economic Journal: Applied Economics* 9(3):105–23.

Bhavnani, Rikhil R. and Alexander Lee. 2018. "Local Embeddedness and Bureaucratic Performance: Evidence from India." *The Journal of Politics* 80(1):71–87.

Bhavnani, Rikhil R and Alexander Lee. 2021. "Does Affirmative Action Worsen Bureaucratic Performance? Evidence from the Indian Administrative Service." *American Journal of Political Science* 65(1):5–20.

Bohlken, Anjali. 2018. "Targeting Ordinary Voters or Political Elites? Why Pork Is Distributed Along Partisan Lines in India." *American Journal of Political Science* 62(4):796–812.

Brass, Paul R. 1981. "Congress, the Lok Dal, and the middle-peasant castes: An analysis of the 1977 and 1980 parliamentary elections in Uttar Pradesh." *Pacific Affairs* pp. 5–41.

Brierley, Sarah. 2020. "Unprincipled principals: Co-opted bureaucrats and corruption in Ghana." *American Journal of Political Science* 64(2):209–222.

Butler, Daniel. 2010. "Monitoring bureaucratic compliance: using field experiments to improve governance." *Public Sector Digest* 5.

Chakrabarti, Poulomi. 2021. "The Politics of Dignity: How Status Inequality shaped Redistributive Politics in India." *Available at SSRN 3691611* .

Chandra, Kanchan. 2007. *Why ethnic parties succeed: Patronage and ethnic head counts in India.* Cambridge University Press.

Chattopadhyay, Raghabendra and Esther Duflo. 2004. "Women as policy makers: Evidence from a randomized policy experiment in India." *Econometrica* 72(5):1409–1443.

Chen, Yan and Sherry Xin Li. 2009. "Group identity and social preferences." *American Economic Review* 99(1):431–57.

Dasgupta, Aditya and Devesh Kapur. 2020. "The political economy of bureaucratic overload: Evidence from rural development officials in India." *American Political Science Review* 114(4):1316–1334.

Derks, Belle, Naomi Ellemers, Colette Van Laar and Kim De Groot. 2011. "Do sexist organizational cultures create the Queen Bee?" *British Journal of Social Psychology* 50(3):519–535.

Dunning, Thad and Janhavi Nilekani. 2013. "Ethnic quotas and political mobilization: caste, parties, and distribution in Indian village councils." *American Political Science Review* 107(01):35–56.

Fearon, James. 1999. "What is identity (as we now use the word)." *Unpublished manuscript, Stanford University, Stanford, Calif* .

Fearon, James and David Laitin. 1996. "Explaining interethnic cooperation." *American political science review* 90(4):715–735.

Fehr, Ernst, Karla Hoff and Mayuresh Kshetramade. 2008. "Spite and development." *The American Economic Review* pp. 494–499.

Gailmard, Sean and John Patty. 2012. "Formal models of bureaucracy." *Annual Review of Political Science* 15:353–377.

Gulzar, Saad and Benjamin Pasquale. 2017. "Politicians, bureaucrats, and development: Evidence from India." *American Political Science Review* 111(1):162–183.

Gulzar, Saad, Nicholas Haas and Benjamin Pasquale. 2020. "Does Political Affirmative Action Work, and for Whom? Theory and Evidence on India's Scheduled Areas." *American Political Science Review* 114(4):1230–1246.

Habyarimana, James, Macartan Humphreys, Daniel Posner and Jeremy Weinstein. 2007. "Why does ethnic diversity undermine public goods provision?" *American Political Science Review* 101(04):709–725.

Hassan, Mai. 2020. *Regime threats and state solutions: Bureaucratic loyalty and embeddedness in Kenya.* Cambridge University Press.

Hjort, Jonas. 2014. "Ethnic divisions and production in firms." *The Quarterly Journal of Economics* 129(4):1899–1946.

Huber, John and Pavithra Suryanarayan. 2016. "Ethnic inequality and the ethnification of political parties: Evidence from India." *World Politics* 68(1):149–188.

Iyer, Lakshmi and Anandi Mani. 2012. "Traveling agents: political change and bureaucratic turnover in India." *Review of Economics and Statistics* 94(3):723–739.

Jaffrelot, Christophe. 2003. *India's silent revolution.* Orient Blackswan.

Jaffrelot, Christophe and Sanjay Kumar. 2012. *Rise of the plebeians?: The changing face of the Indian legislative assemblies.* Routledge.

Jensenius, Francesca. 2017. *Social justice through inclusion: The consequences of electoral quotas in India.* Oxford University Press.

Kalin, Michael and Nicholas Sambanis. 2018. "How to think about social identity." *Annual Review of Political Science* 21:239–257.

Keefer, Philip and Stuti Khemani. 2009. "When do legislators pass on pork? The role of political parties in determining legislator effort." *American Political Science Review* 103(01):99–112.

Kramon, Eric and Daniel Posner. 2016. "Ethnic Favoritism in Education in Kenya." *Quarterly Journal of Political Science* 11:1–58.

Lee, Alexander. 2018. "Ethnic diversity and ethnic discrimination: Explaining local public goods provision." *Comparative Political Studies* 51(10):1351–1383.

Lee, Alexander. 2019. *From Hierarchy to Ethnicity: The Politics of Caste in Twentieth Century India.* Cambridge University Press.

Lee, Alexander. 2021. "Does Affirmative Action Work? Evaluating India's Quota System." *Comparative Political Studies* 54(9):1534–64.

Meier, Kenneth J and Anita Dhillon. 2022. "Gender and the state politics of policy implementation in education: the interaction of bureaucratic and legislative representation in India." *State Politics & Policy Quarterly* pp. 1–27.

Miguel, Edward. 2004. "Tribe or nation? Nation building and public goods in Kenya versus Tanzania." *World Politics* 56(03):328–362.

Miguel, Edward and Mary Kay Gugerty. 2005. "Ethnic diversity, social sanctions, and public goods in Kenya." *Journal of public Economics* 89(11-12):2325–2368.

Milgrom, Paul R, Douglass C North and Barry R Weingast. 1990. "The role of institutions in the revival of trade: The law merchant, private judges, and the champagne fairs." *Economics & Politics* 2(1):1–23.

Miller, Gary. 2005. "The political evolution of principal-agent models." *Annual Review of Political Science* 8:203–225.

Mishra, Jyoti, Vibha Attri and Nitin Mehta. 2014. "The Bahujan Vote in 2014 Elections: Voting Pattern among Dalits, Adivasis, and Backward Castes." *Research Journal Social Sciences* 22(2).

Nath, Anusha. 2014. "Political competition and elite capture of local public goods." *Unpublished manuscript* .

Pathak, Vikas. 2013. "Telangana state may help settle old caste war." *Hindustan Times* .

Pepinsky, Thomas B, Jan H Pierskalla and Audrey Sacks. 2017. "Bureaucracy and service delivery." *Annual Review of Political Science* 20:249–268.

Pérez, Efrén O. 2021. *Diversity's Child: People of Color and the Politics of Identity.* University of Chicago Press.

Posner, Daniel N. 2005. *Institutions and ethnic politics in Africa.* Cambridge University Press.

Purohit, Bhumi. 2022. "Bureaucratic Resistance Against Female Politicians: Evidence from Telangana, India." *Unpublished manuscript* .

Rivera, Carlos Velasco. 2020. "Loyalty or incentives? How party alignment affects bureaucratic performance." *The Journal of Politics* 82(4):1287–1304.

Roy, Ramashray. 1968. "Dynamics of One-Party Dominance in an Indian State." *Asian Survey* 8(7):553–575.

Rudolph, Lloyd. 1984. *The modernity of tradition: Political development in India.* University of Chicago Press.

Singh, Prerna. 2015. *How solidarity works for welfare: Subnationalism and social development in India.* Cambridge University Press.

Srinivas, Mysore Narasimhachar. 1957. "Caste in modern India." *The Journal of Asian Studies* 16(4):529–548.

Srinivas, Mysore Narasimhachar. 1960. *The social structure of a Mysore village.* Bobbs-Merrill.

Stokes, Susan, Thad Dunning, Marcelo Nazareno and Valeria Brusco. 2013. *Brokers, voters, and clientelism: The puzzle of distributive politics.* Cambridge University Press.

Suryanarayan, Pavithra. 2019. "When do the poor vote for the right wing and why: Status hierarchy and vote choice in the Indian states." *Comparative Political Studies* 52(2):209–245.

Telles, Edward, Mark Sawyer and Gaspar Rivera-Salgado. 2011. *Just Neighbors?: Research on African American and Latino Relations in the United States.* Russell Sage Foundation.

Thachil, Tariq and Emmanuel Teitelbaum. 2015. "Ethnic parties and public spending: New theory and evidence from the Indian states." *Comparative Political Studies* 48(11):1389–1420.

Weingast, Barry. 1984. "The congressional-bureaucratic system: a principal agent perspective (with applications to the SEC)." *Public choice* 44(1):147–191.

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Online Appendix

Coethnic Rivalry and Solidarity: The Political Economy of Politician-Bureaucrat Cooperation in India

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Appendix

Table of Contents

A1 Coding Jati Congruence

To code jati congruence, we proceed as follows. For the jati of Indian MPs, we use the data collected by the Trivedi Centre for Political Data, which identifies the jati of 89% of MPs. To code officer jati, we triangulated two approaches. First, we worked with a local data collection firm to contact journalists and others with regional expertise to provide a jati for each IAS officer. This yielded a coded jati for 67% of the IAS officers in our database. Second, using our own knowledge and several publicly available datasets of the caste and surname of Indian elites, we coded jati for roughly 32% of the IAS officers in our database. We followed the same coding rule used by the Center for the Study of Developing Societies for their studies of MP and MLA caste (Jaffrelot, 2003), starting by coding a list of surnames that are notoriously associated with a particular jati or identical to a jati name, supplementing our personal knowledge with the CSDS MP dataset, where we focused on surnames shared by more that three MPs since 1967, all of whom were of the same jati. The two coding strategies overlapped for 30% of DOs and agreed in 73% of these cases. We combined these two coding approaches for a more complete IAS officer jati coding, taking as the base the external jati coding (67% of DOs) and filling in our own coding for an additional 18 officers (2% of DOs). Combined, we have data on officer jati for 69% of officers. Religious minorities (who are rare in the IAS) are counted as jatis for the purpose of this coding. To code jati congruence, we abide by two simple rules. First, given that jati is defined very locally, we assume that an IAS officer cannot share the same jati as the MP unless the two originate from the same state. Second, we assume that IAS officers can only share the same jati as their MP if they also share the same caste category. Given these two additional rules alongside the jati coding we described above, we are able to determine jati congruence for 95% of IAS officers.

A2 Robustness Specifications

Table A2.1: Summary Statistics

	Mean	Std. Dev.	Min.	Max.
Project Sanctioned Within 75 days	0.68	0.46	0.00	1.00
Days to Project Sanction	64.48	72.42	0.00	365.00
Log Days to Project Sanction	3.47	1.40	0.00	5.90
MP-DO Caste Category Congruence	0.43	0.49	0.00	1.00
MP-DO Jati Congruence	0.01	0.10	0.00	1.00
MP-DO Speak the Same Language	0.57	0.50	0.00	1.00
MP-DO Are From the Same State	0.24	0.43	0.00	1.00
MP is General	0.55	0.50	0.00	1.00
MP is Other Backward Class	0.18	0.39	0.00	1.00
MP is Scheduled Caste	0.17	0.38	0.00	1.00
MP is Scheduled Tribe	0.10	0.29	0.00	1.00
MP is Female	0.11	0.31	0.00	1.00
DO is General	0.55	0.50	0.00	1.00
DO is Other Backward Class	0.25	0.43	0.00	1.00
DO is Scheduled Caste	0.12	0.33	0.00	1.00
DO is Scheduled Tribe	0.08	0.28	0.00	1.00
DO is Female	0.12	0.33	0.00	1.00
MP is from the Same Party as Chief Minister	0.53	0.50	0.00	1.00
Log Number of Pending Projects	3.73	1.47	-9.21	6.54
Log Project Cost/100,000 (Rupees)	0.29	1.15	-9.21	4.61
Log Days Under Previous District Officer	0.00	0.14	0.00	5.20
BIMARU States	0.34	0.47	0.00	1.00
Southern States	0.24	0.43	0.00	1.00
States Where OBC Reservations Implemented After 1994	0.50	0.50	0.00	1.00

Table A2.2: Caste Congruence and Bureaucratic Performance (Log Days to Sanction)

	Log Days to Sanction					
Panel A:						
Caste Category Congruence	0.012	0.105	0.098	-0.046	0.027	-0.104
	(0.085)	(0.073)	(0.072)	(0.079)	(0.074)	(0.088)
Jati Congruence	-0.061	-0.039	0.026	-0.186	-0.115	-0.800
	(0.255)	(0.196)	(0.177)	(0.296)	(0.221)	(0.352)**
N	149156	149153	149153	54721	113889	42276
R-Squared	0.266	0.461	0.465	0.440	0.478	0.444
Panel B:						
Caste Category Congruence	0.040	0.096	0.082	-0.240	-0.005	-0.362
	(0.104)	(0.101)	(0.097)	(0.134)*	(0.097)	(0.145)**
Caste Category Congruence X Post-1994 Reservation	-0.018	0.036	0.046	0.281	0.089	0.403
	(0.152)	(0.127)	(0.125)	(0.154)*	(0.131)	(0.178)**
Jati Congruence	-0.038	-0.064	-0.002	-0.209	-0.124	-0.760
	(0.247)	(0.197)	(0.179)	(0.293)	(0.223)	(0.356)**
ME of Caste Congruence in Post-1994 Reservation States	0.022	0.132	0.128	0.041	0.084	0.041
	(0.124)	(0.091)	(0.092)	(0.090)	(0.099)	(0.105)
N	148339	148337	148337	54721	113296	42276
R-Squared	0.277	0.462	0.467	0.441	0.479	0.445
Panel C:						
Caste Category Congruence	0.079	-0.017	-0.049	-0.240	-0.185	-0.362
	(0.151)	(0.124)	(0.122)	(0.134)*	(0.118)	(0.145)**
Caste Category Congruence X BIMARU	0.099	0.264	0.299	0.281	0.368	0.403
	(0.174)	(0.133)**	(0.133)**	(0.154)*	(0.150)**	(0.178)**
Jati Congruence	-0.059	-0.037	0.027	-0.209	-0.097	-0.760
	(0.243)	(0.195)	(0.179)	(0.293)	(0.224)	(0.356)**
ME of Caste Congruence in BIMARU	0.178	0.247	0.250	0.041	0.183	0.041
	(0.109)	(0.092)***	(0.093)***	(0.090)	(0.103)*	(0.105)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.269	0.462	0.466	0.441	0.478	0.445
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing. Projects with approval times of more than 365 days dropped, however, results robust to their inclusion (available on request).

Table A2.3: Caste Congruence and Bureaucratic Performance: Excluding Imputed Category

	Sanctioned in 75 Days					
Panel A:						
Caste Category Congruence	-0.007	-0.019	-0.021	-0.030	0.013	-0.013
	(0.029)	(0.028)	(0.028)	(0.035)	(0.029)	(0.045)
Jati Congruence	0.267	0.183	0.134	-0.167	0.134	-0.310
	(0.114)**	(0.129)	(0.121)	(0.137)	(0.107)	(0.165)*
N	83116	83110	83110	30032	65236	23451
R-Squared	0.196	0.315	0.321	0.294	0.330	0.294
Panel B:						
Caste Category Congruence	0.027	-0.027	-0.026	0.067	0.019	0.088
	(0.038)	(0.035)	(0.036)	(0.040)*	(0.035)	(0.059)
Caste Category Congruence X Post-1994 Reservation	-0.086	0.019	0.013	-0.147	-0.014	-0.141
	(0.050)*	(0.051)	(0.050)	(0.052)***	(0.052)	(0.070)**
Jati Congruence	0.271	0.179	0.131	-0.211	0.135	-0.375
	(0.113)**	(0.128)	(0.121)	(0.133)	(0.106)	(0.156)**
ME of Caste Congruence in Post-1994 Reservation States	-0.059	-0.008	-0.013	-0.080	0.005	-0.053
	(0.038)	(0.040)	(0.039)	(0.044)*	(0.044)	(0.053)
N	82643	82638	82638	30032	64764	23451
R-Squared	0.200	0.313	0.320	0.295	0.327	0.295
Panel C:						
Caste Category Congruence	0.038	0.030	0.047	0.067	0.022	0.088
	(0.055)	(0.033)	(0.033)	(0.040)*	(0.042)	(0.059)
Caste Category Congruence X BIMARU	-0.142	-0.151	-0.176	-0.147	-0.102	-0.141
	(0.064)**	(0.053)***	(0.054)***	(0.052)***	(0.063)	(0.070)**
Jati Congruence	0.246	0.146	0.102	-0.211	0.099	-0.375
	(0.110)**	(0.125)	(0.118)	(0.133)	(0.103)	(0.156)**
ME of Caste Congruence in BIMARU	-0.104	-0.121	-0.129	-0.080	-0.080	-0.053
	(0.040)***	(0.047)***	(0.047)***	(0.044)*	(0.051)	(0.053)
N	83116	83110	83110	30032	65236	23451
R-Squared	0.202	0.317	0.323	0.295	0.331	0.295
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. Only district officers with official caste category data included.

Table A2.4: Caste Congruence and Bureaucratic Performance: Cox Hazard Model

	Sanction Date					
Panel A:						
Caste Category Congruence	-0.026	-0.067	-0.081	-0.034	-0.056	-0.009
	(0.054)	(0.060)	(0.060)	(0.085)	(0.082)	(0.099)
Jati Congruence	-0.068	0.486	0.401	0.151	0.672	0.386
	(0.193)	(0.188)***	(0.151)***	(0.278)	(0.141)***	(0.352)
N	136228	136228	136228	50936	105174	39875
R-Squared						
Panel B:						
Caste Category Congruence	0.068	0.039	0.042	0.215	-0.007	0.230
	(0.077)	(0.090)	(0.088)	(0.163)	(0.103)	(0.166)
Caste Category Congruence X Post-1994 Reservation	-0.228	-0.195	-0.226	-0.352	-0.108	-0.361
	(0.099)**	(0.120)	(0.117)*	(0.176)**	(0.157)	(0.190)*
Jati Congruence	-0.029	0.520	0.444	0.167	0.676	0.362
	(0.184)	(0.191)***	(0.154)***	(0.276)	(0.144)***	(0.359)
ME of Caste Congruence in Post-1994 Reservation States						
N	135429	135429	135429	50936	104599	39875
R-Squared						
Panel C:						
Caste Category Congruence	0.095	0.177	0.195	0.215	0.126	0.230
	(0.121)	(0.108)	(0.112)*	(0.163)	(0.117)	(0.166)
Caste Category Congruence X BIMARU	-0.270	-0.438	-0.482	-0.352	-0.389	-0.361
	(0.135)**	(0.135)***	(0.139)***	(0.176)**	(0.177)**	(0.190)*
Jati Congruence	-0.046	0.492	0.409	0.167	0.646	0.362
	(0.185)	(0.180)***	(0.145)***	(0.276)	(0.147)***	(0.359)
ME of Caste Congruence in BIMARU						
N	136228	136228	136228	50936	105174	39875
R-Squared						
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. Cox proportional hazard model estimates reported. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing and an indicator for non-BIMARU/non-SOUTH states. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing. Projects with approval times of more than 365 days dropped, however, results robust to their inclusion (available on request).

Table A2.5: Caste Congruence and Bureaucratic Performance prior to 2005

	Sanctioned in 75 Days		
Panel A:			
Caste Category Congruence	-0.079	-0.123	-0.110
	(0.048)	(0.046)***	(0.047)**
Jati Congruence	-0.342	-0.498	-0.480
	(0.138)**	(0.149)***	(0.141)***
N	21619	21617	21617
R-Squared	0.194	0.341	0.342
Panel B:			
Caste Category Congruence	0.077	-0.161	-0.214
	(0.092)	(0.151)	(0.162)
Caste Category Congruence X Post-1994 Reservation	-0.200	0.040	0.110
	(0.097)**	(0.151)	(0.163)
Jati Congruence	-0.321	-0.497	-0.479
	(0.115)***	(0.149)***	(0.141)***
ME of Caste Congruence in Post-1994 Reservation States	-0.124	-0.121	-0.105
	(0.050)**	(0.046)***	(0.048)**
N	21619	21617	21617
R-Squared	0.204	0.341	0.342
Panel C:			
Caste Category Congruence	0.237	0.028	0.004
	(0.098)**	(0.209)	(0.215)
Caste Category Congruence X BIMARU	-0.362	-0.158	-0.114
	(0.101)***	(0.228)	(0.233)
Jati Congruence	-0.312	-0.499	-0.472
	(0.116)***	(0.149)***	(0.146)***
ME of Caste Congruence in BIMARU	-0.125	-0.130	-0.111
	(0.050)**	(0.053)**	(0.056)**
N	21619	21617	21617
R-Squared	0.212	0.341	0.342
States	All	All	All
DOs	All	All	All
Session Fixed Effects	✓		✓
Fiscal Year Fixed Effects	✓		✓
District Fixed Effects		✓	✓
Controls	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing and an indicator for non-BIMARU/non-SOUTH states. Models include data for projects that were received prior to 2005. Data from the 13th session include only BIMARU states. District officers with official caste category data included and

Figure A2.1: Coefficient Estimates Removing States One-by-One
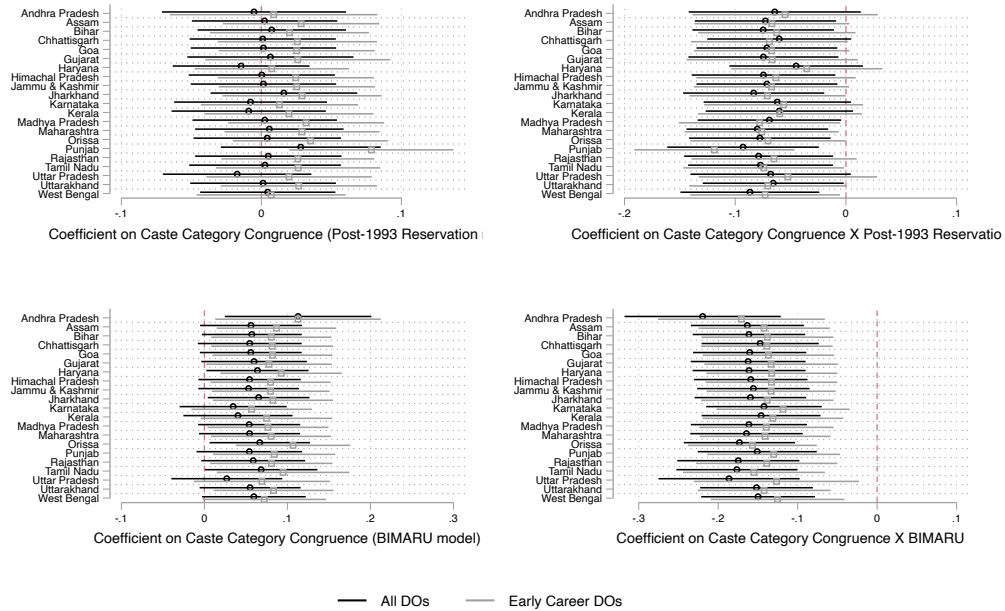
Note: Each coefficient represents the estimates from equation 2 for the sample with all DOs and early career DOs with session, fiscal year, and district fixed effects when running the equation removing data from the state on the y-axis.

Figure A2.2: Histogram of Days to Sanction
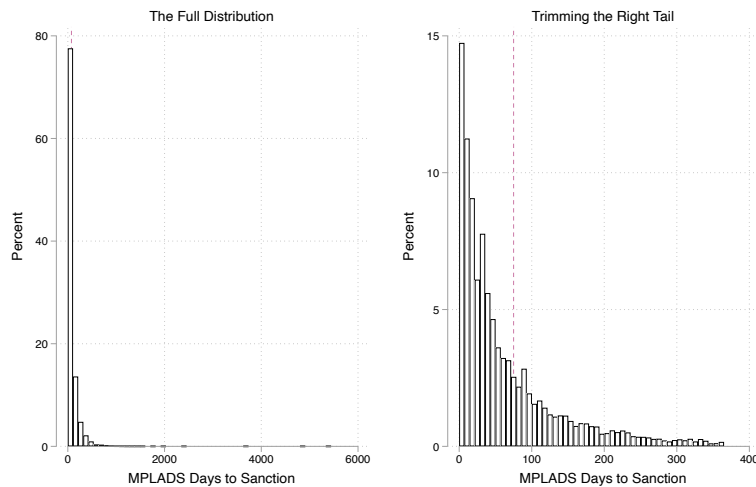
Note: Histogram on left shows full distribution of days to sanction and on the right shows the distribution conditioning on projects sanctioned within one year.

Table A2.6: Caste Congruence and Bureaucratic Performance - Standard Errors Clustered at State-Year

	Sanctioned in 75 Days					
Panel A:						
Caste Category Congruence	-0.009	-0.031	-0.036	-0.005	-0.006	0.017
	(0.019)	(0.021)	(0.021)*	(0.029)	(0.020)	(0.024)
Jati Congruence	0.005	0.168	0.135	0.208	0.146	0.315
	(0.099)	(0.068)**	(0.056)**	(0.151)	(0.072)**	(0.169)*
N	149156	149153	149153	54721	113889	42276
R-Squared	0.184	0.317	0.323	0.299	0.326	0.316
Panel B:						
Caste Category Congruence	0.017	0.001	0.001	0.088	0.025	0.122
	(0.022)	(0.029)	(0.028)	(0.039)**	(0.030)	(0.045)***
Caste Category Congruence X Post-1994 Reservation	-0.067	-0.064	-0.071	-0.135	-0.067	-0.164
	(0.032)**	(0.036)*	(0.036)**	(0.048)***	(0.037)*	(0.054)***
Jati Congruence	0.013	0.184	0.153	0.220	0.151	0.299
	(0.095)	(0.069)***	(0.057)***	(0.147)	(0.074)**	(0.171)*
ME of Caste Congruence in Post-1994 Reservation States	-0.050	-0.062	-0.070	-0.047	-0.042	-0.042
	(0.028)*	(0.028)**	(0.028)**	(0.035)	(0.024)*	(0.029)
N	148339	148337	148337	54721	113296	42276
R-Squared	0.190	0.318	0.324	0.301	0.327	0.318
Panel C:						
Caste Category Congruence	0.024	0.044	0.056	0.088	0.082	0.122
	(0.027)	(0.036)	(0.036)	(0.039)**	(0.040)**	(0.045)***
Caste Category Congruence X BIMARU	-0.112	-0.141	-0.160	-0.135	-0.137	-0.164
	(0.040)***	(0.043)***	(0.044)***	(0.048)***	(0.045)***	(0.054)***
Jati Congruence	0.009	0.170	0.139	0.220	0.142	0.299
	(0.094)	(0.066)**	(0.056)**	(0.147)	(0.075)*	(0.171)*
ME of Caste Congruence in BIMARU	-0.088	-0.098	-0.104	-0.047	-0.055	-0.042
	(0.031)***	(0.033)***	(0.033)***	(0.035)	(0.025)**	(0.029)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.186	0.318	0.324	0.301	0.327	0.318
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

**Note:** ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include state-year clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A2.7: Caste Congruence and Bureaucratic Performance - Standard Errors Clustered at Dyad and State-Year

	Sanctioned in 75 Days					
Panel A:						
Caste Category Congruence	-0.009	-0.031	-0.036	-0.005	-0.006	0.017
	(0.022)	(0.022)	(0.021)*	(0.029)	(0.020)	(0.024)
Jati Congruence	0.005	0.168	0.135	0.208	0.146	0.315
	(0.102)	(0.070)**	(0.059)**	(0.176)	(0.075)*	(0.194)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.184	0.317	0.323	0.299	0.326	0.316
Panel B:						
Caste Category Congruence	0.017	0.001	0.001	0.088	0.025	0.122
	(0.027)	(0.029)	(0.029)	(0.037)**	(0.030)	(0.043)***
Caste Category Congruence X Post-1994 Reservation	-0.067	-0.064	-0.071	-0.135	-0.067	-0.164
	(0.038)*	(0.037)*	(0.037)*	(0.047)***	(0.038)*	(0.054)***
Jati Congruence	0.013	0.184	0.153	0.220	0.151	0.299
	(0.098)	(0.070)***	(0.059)**	(0.172)	(0.077)*	(0.195)
ME of Caste Congruence in Post-1994 Reservation States	-0.050	-0.062	-0.070	-0.047	-0.042	-0.042
	(0.031)	(0.028)**	(0.028)**	(0.036)	(0.025)*	(0.030)
N	148339	148337	148337	54721	113296	42276
R-Squared	0.190	0.318	0.324	0.301	0.327	0.318
Panel C:						
Caste Category Congruence	0.024	0.044	0.056	0.088	0.082	0.122
	(0.036)	(0.033)	(0.033)*	(0.037)**	(0.037)**	(0.043)***
Caste Category Congruence X BIMARU	-0.112	-0.141	-0.160	-0.135	-0.137	-0.164
	(0.048)**	(0.040)***	(0.041)***	(0.047)***	(0.043)***	(0.054)***
Jati Congruence	0.009	0.170	0.139	0.220	0.142	0.299
	(0.097)	(0.069)**	(0.060)**	(0.172)	(0.078)*	(0.195)
ME of Caste Congruence in BIMARU	-0.088	-0.098	-0.104	-0.047	-0.055	-0.042
	(0.034)***	(0.032)***	(0.033)***	(0.036)	(0.025)**	(0.030)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.186	0.318	0.324	0.301	0.327	0.318
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad and state-year clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A2.8: Caste Congruence and Bureaucratic Performance (Excluding 13th Session)

	Sanctioned in 75 Days					
Panel A:						
Caste Category Congruence	0.002	-0.019	-0.023	0.022	0.017	0.059
	(0.023)	(0.021)	(0.021)	(0.025)	(0.024)	(0.037)
Jati Congruence	0.080	0.211	0.177	0.305	0.163	0.317
	(0.114)	(0.072)***	(0.066)***	(0.149)**	(0.075)**	(0.200)
N	136008	136005	136005	45883	103799	35387
R-Squared	0.196	0.332	0.339	0.331	0.341	0.352
Panel B:						
Caste Category Congruence	0.020	0.003	0.004	0.075	0.033	0.107
	(0.030)	(0.028)	(0.027)	(0.036)**	(0.029)	(0.046)**
Caste Category Congruence X Post-1994 Reservation	-0.056	-0.051	-0.060	-0.089	-0.051	-0.094
	(0.041)	(0.035)	(0.034)*	(0.043)**	(0.037)	(0.047)**
Jati Congruence	0.089	0.229	0.197	0.319	0.171	0.312
	(0.108)	(0.073)***	(0.067)***	(0.148)**	(0.076)**	(0.201)
ME of Caste Congruence in Post-1994 Reservation States	-0.036	-0.048	-0.056	-0.014	-0.017	0.012
	(0.032)	(0.027)*	(0.027)**	(0.031)	(0.031)	(0.041)
N	135191	135189	135189	45883	103206	35387
R-Squared	0.203	0.333	0.340	0.332	0.342	0.353
Panel C:						
Caste Category Congruence	0.033	0.045	0.056	0.075	0.077	0.107
	(0.044)	(0.032)	(0.033)*	(0.036)**	(0.039)**	(0.046)**
Caste Category Congruence X BIMARU	-0.117	-0.138	-0.156	-0.089	-0.091	-0.094
	(0.055)**	(0.039)***	(0.040)***	(0.043)**	(0.044)**	(0.047)**
Jati Congruence	0.082	0.219	0.186	0.319	0.163	0.312
	(0.111)	(0.072)***	(0.067)***	(0.148)**	(0.077)**	(0.201)
ME of Caste Congruence in BIMARU	-0.084	-0.092	-0.101	-0.014	-0.014	0.012
	(0.034)**	(0.032)***	(0.032)***	(0.031)	(0.031)	(0.041)
N	136008	136005	136005	45883	103799	35387
R-Squared	0.199	0.334	0.340	0.332	0.342	0.353
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 14th, and 15th sessions. Data from the 13th session dropped. District officers with official caste category data included and caste category imputed for years when missing.

Table A2.9: Caste Congruence and Bureaucratic Performance by Single District Constituencies

	Sanctioned in 75 Days		
Caste Category Congruence	-0.036	-0.000	0.053
	(0.019)*	(0.026)	(0.031)*
Parliamentary Constituency has Only One District	0.272	-0.179	-0.164
	(0.184)	(0.045)***	(0.049)***
Caste Category Congruence X PC has One District	-0.002	0.075	0.029
	(0.094)	(0.048)	(0.048)
Caste Category Congruence X Post-1994 Reservation		-0.069	
		(0.032)**	
Caste Category Congruence X BIMARU			-0.161
			(0.036)***
BIMARU X PC has One District			0.172
			(0.093)*
Post-1994 Reservation X PC has One District		0.478	
		(0.195)**	
Caste Category Congruence X Post-1994 Reservation X PC has One District		-0.066	
		(0.108)	
Caste Category Congruence X BIMARU X PC has One District			0.075
			(0.081)
Jati Congruence	0.134	0.155	0.140
	(0.069)*	(0.069)**	(0.069)**
N	149153	148337	149153
R-Squared	0.323	0.325	0.325
States	All	All	All
DOs	All	All	All
Session Fixed Effects	✓	✓	✓
Fiscal Year Fixed Effects	✓	✓	✓
District Fixed Effects	✓	✓	✓
Controls	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing and an indicator for non-BIMARU/non-SOUTH states. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A2.10: Caste Congruence and Bureaucratic Performance Collapsed to Dyad-Level

	Sanctioned in 75 Days					
Panel A:						
Caste Category Congruence	-0.024	-0.007	-0.008	-0.002	0.012	-0.002
	(0.022)	(0.021)	(0.021)	(0.029)	(0.024)	(0.033)
Jati Congruence	0.110	0.155	0.137	0.092	0.178	0.125
	(0.076)	(0.086)*	(0.084)	(0.133)	(0.083)**	(0.169)
N	2436	2414	2414	988	1813	747
R-Squared	0.266	0.523	0.538	0.515	0.597	0.562
Panel B:						
Caste Category Congruence	-0.020	0.014	0.017	0.090	0.055	0.109
	(0.029)	(0.029)	(0.029)	(0.045)**	(0.031)*	(0.054)**
Caste Category Congruence X Post-1994 Reservation	-0.016	-0.041	-0.047	-0.123	-0.079	-0.159
	(0.037)	(0.035)	(0.034)	(0.051)**	(0.039)**	(0.062)**
Jati Congruence	0.104	0.167	0.150	0.097	0.182	0.104
	(0.076)	(0.085)*	(0.083)*	(0.131)	(0.081)**	(0.174)
ME of Caste Congruence in Post-1994 Reservation States	-0.036	-0.027	-0.031	-0.033	-0.024	-0.051
	(0.027)	(0.026)	(0.026)	(0.033)	(0.030)	(0.038)
N	2418	2397	2397	988	1799	747
R-Squared	0.273	0.524	0.540	0.518	0.598	0.567
Panel C:						
Caste Category Congruence	-0.006	0.052	0.064	0.090	0.091	0.109
	(0.037)	(0.032)	(0.032)**	(0.045)**	(0.038)**	(0.054)**
Caste Category Congruence X BIMARU	-0.036	-0.090	-0.105	-0.123	-0.116	-0.159
	(0.045)	(0.039)**	(0.039)***	(0.051)**	(0.046)**	(0.062)**
Jati Congruence	0.106	0.159	0.143	0.097	0.172	0.104
	(0.075)	(0.086)*	(0.084)*	(0.131)	(0.084)**	(0.174)
ME of Caste Congruence in BIMARU	-0.042	-0.038	-0.040	-0.033	-0.024	-0.051
	(0.029)	(0.028)	(0.028)	(0.033)	(0.032)	(0.038)
N	2436	2414	2414	988	1813	747
R-Squared	0.268	0.524	0.540	0.518	0.599	0.567
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. Data are collapsed to the dyad level. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.
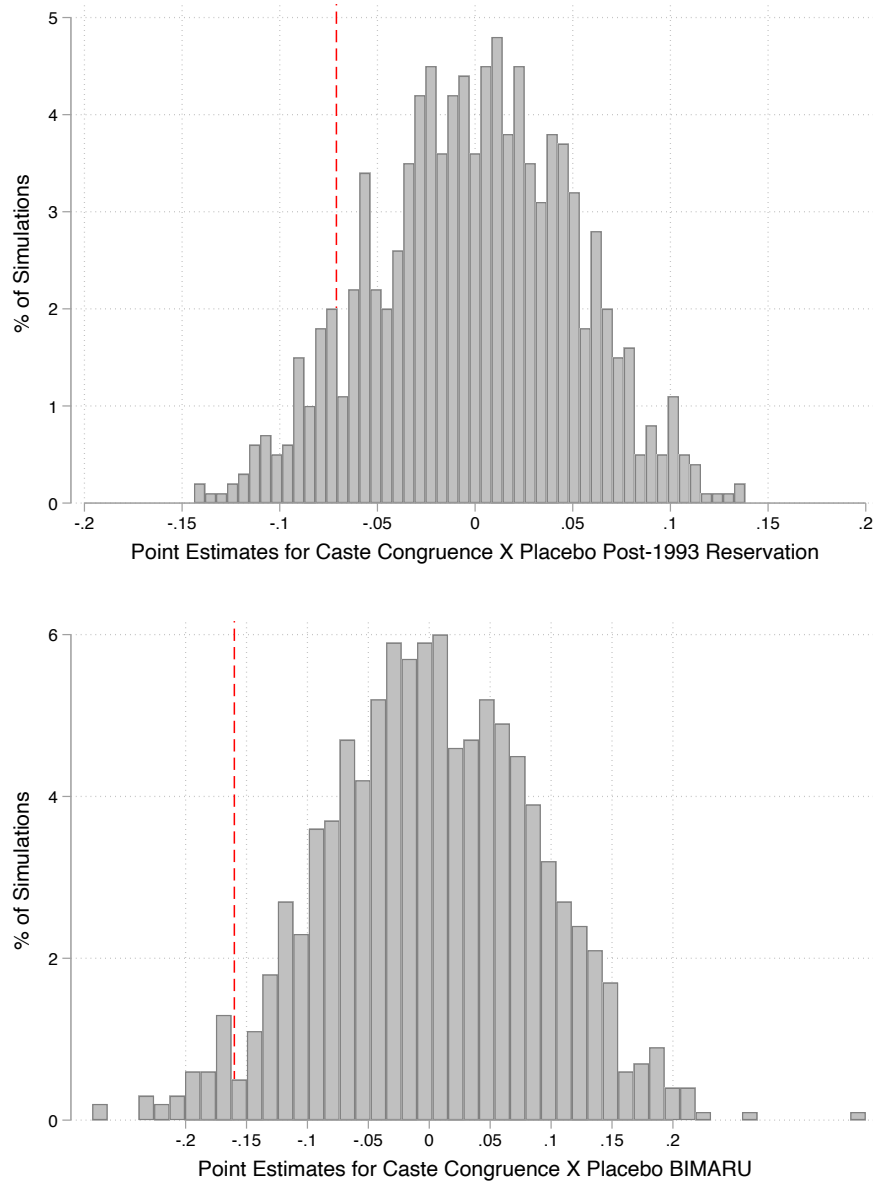
A3   Testing Alternative Hypotheses

Figure A3.1: Distribution of Estimated Coefficients of Caste Congruence X Region for 1000 simulated placebo regions

Note: Histogram generated from 1000 simulations where, in each simulation, states were randomly allocated to "regions" of the same size as the actual regions. This generates a placebo Post-1994 reservation and a placebo BIMARU categorization for each simulation. The figure plots the estimated coefficients on the interaction between caste congruence and the placebo region using the fully specified fixed effects specification on the entire sample. The red dashed line represents the estimated coefficient from the actually observed regions. Only 9.6% of simulated samples in panel A and 3.6% of simulated samples in panel b using a one-sided t-test attain a coefficient as large or larger as our estimated coefficient.

Table A3.1: Caste Congruence and Bureaucratic Performance by Caste Category

	Sanctioned in 75 Days					
Panel A:						
GEN Category Congruence	-0.016	0.002	-0.006	0.005	-0.017	-0.016
	(0.044)	(0.032)	(0.031)	(0.042)	(0.037)	(0.055)
OBC Category Congruence	0.007	-0.078	-0.075	-0.049	0.012	0.038
	(0.065)	(0.052)	(0.051)	(0.063)	(0.058)	(0.065)
SC/ST Category Congruence	-0.014	-0.058	-0.063	0.022	0.000	0.074
	(0.053)	(0.042)	(0.041)	(0.058)	(0.050)	(0.079)
Jati Congruence	0.005	0.166	0.134	0.219	0.147	0.322
	(0.106)	(0.075)**	(0.069)*	(0.174)	(0.077)*	(0.195)*
N	149156	149153	149153	54721	113889	42276
R-Squared	0.184	0.317	0.323	0.299	0.326	0.316
Panel B:						
GEN Category Congruence	0.005	0.042	0.041	0.098	0.013	0.119
	(0.047)	(0.038)	(0.037)	(0.054)*	(0.046)	(0.068)*
OBC Category Congruence	0.051	-0.036	-0.033	-0.055	0.129	-0.139
	(0.092)	(0.076)	(0.073)	(0.066)	(0.069)*	(0.113)
SC/ST Category Congruence	0.022	-0.063	-0.071	0.090	-0.009	0.097
	(0.064)	(0.054)	(0.054)	(0.102)	(0.064)	(0.123)
GEN Category Congruence X Post-1994 Reservation	-0.060	-0.077	-0.090	-0.153	-0.068	-0.227
	(0.045)	(0.037)**	(0.037)**	(0.058)***	(0.043)	(0.069)***
OBC Category Congruence X Post-1994 Reservation	-0.107	-0.066	-0.064	0.008	-0.172	0.202
	(0.100)	(0.089)	(0.088)	(0.082)	(0.090)*	(0.121)*
SC/ST Category Congruence X Post-1994 Reservation	-0.067	0.022	0.037	-0.101	0.022	-0.078
	(0.077)	(0.073)	(0.072)	(0.118)	(0.091)	(0.140)
Jati Congruence	0.013	0.186	0.155	0.220	0.167	0.270
	(0.102)	(0.076)**	(0.069)**	(0.168)	(0.078)**	(0.187)
N	148339.000	148337.000	148337.000	54721.000	113296.000	42276.000
R-Squared	0.190	0.318	0.324	0.301	0.327	0.319
Panel C:						
GEN Category Congruence	-0.005	0.063	0.073	0.098	0.076	0.119
	(0.061)	(0.039)	(0.039)*	(0.054)*	(0.048)	(0.068)*
OBC Category Congruence	0.147	0.065	0.081	-0.055	0.125	-0.139
	(0.103)	(0.087)	(0.090)	(0.066)	(0.089)	(0.113)
SC/ST Category Congruence	0.036	-0.017	-0.009	0.090	0.082	0.097
	(0.075)	(0.104)	(0.102)	(0.102)	(0.101)	(0.123)
GEN Category Congruence X BIMARU	-0.105	-0.165	-0.192	-0.153	-0.172	-0.227
	(0.060)*	(0.042)***	(0.043)***	(0.058)***	(0.049)***	(0.069)***
OBC Category Congruence X BIMARU	-0.188	-0.141	-0.148	0.008	-0.081	0.202
	(0.113)*	(0.098)	(0.100)	(0.082)	(0.093)	(0.121)*
SC/ST Category Congruence X BIMARU	-0.073	0.015	0.013	-0.101	-0.032	-0.078
	(0.084)	(0.124)	(0.120)	(0.118)	(0.130)	(0.140)
Jati Congruence	0.005	0.158	0.125	0.220	0.111	0.270
	(0.100)	(0.074)**	(0.069)*	(0.168)	(0.079)	(0.187)
N	149156.000	149153.000	149153.000	54721.000	113889.000	42276.000
R-Squared	0.188	0.319	0.325	0.301	0.328	0.319
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A3.2: Caste Congruence and Bureaucratic Performance Conditional on MP-Chief Minister Alignment

	Sanctioned in 75 Days					
Panel A:						
Caste Category Congruence	-0.018	-0.065	-0.071	-0.053	-0.052	-0.033
	(0.030)	(0.025)**	(0.025)***	(0.030)*	(0.028)*	(0.035)
MP-MLA Aligned	0.034	0.004	0.007	-0.035	-0.008	-0.028
	(0.025)	(0.020)	(0.020)	(0.023)	(0.024)	(0.029)
Caste Category Congruence X MP-Chief Minister Aligned	0.016	0.060	0.061	0.105	0.082	0.115
	(0.038)	(0.028)**	(0.028)**	(0.035)***	(0.031)***	(0.040)***
Jati Congruence	0.005	0.162	0.130	0.198	0.136	0.272
	(0.106)	(0.073)**	(0.067)*	(0.167)	(0.073)*	(0.200)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.184	0.317	0.323	0.301	0.327	0.317
Panel B:						
Caste Category Congruence	0.008	-0.023	-0.024	-0.022	-0.019	-0.013
	(0.042)	(0.035)	(0.034)	(0.044)	(0.039)	(0.059)
Caste Category Congruence X Post-1994 Reservation	-0.061	-0.078	-0.085	-0.033	-0.061	-0.027
	(0.057)	(0.045)*	(0.045)*	(0.056)	(0.051)	(0.069)
Caste Category Congruence X MP-Chief Minister Aligned	0.018	0.037	0.039	0.181	0.069	0.217
	(0.055)	(0.038)	(0.038)	(0.048)***	(0.045)	(0.059)***
Post-1994 Reservation X MP-Chief Minister Aligned	0.018	-0.012	-0.012	0.109	-0.010	0.163
	(0.052)	(0.040)	(0.041)	(0.045)**	(0.048)	(0.061)***
Caste Category Congruence X Post-1994 Reservation X MP-Chief Minister Aligned	-0.010	0.038	0.034	-0.149	0.006	-0.202
	(0.073)	(0.057)	(0.056)	(0.068)**	(0.061)	(0.083)**
MP-Chief Minister Aligned	0.030	0.020	0.024	-0.098	0.007	-0.128
	(0.040)	(0.032)	(0.032)	(0.037)***	(0.039)	(0.051)**
N	148339.000	148337.000	148337.000	54721.000	113296.000	42276.000
R-Squared	0.190	0.318	0.324	0.303	0.327	0.320
Panel C:						
Caste Category Congruence	-0.051	-0.010	-0.002	-0.022	0.006	-0.013
	(0.057)	(0.036)	(0.035)	(0.044)	(0.042)	(0.059)
Caste Category Congruence X BIMARU	-0.034	-0.108	-0.126	-0.033	-0.046	-0.027
	(0.072)	(0.047)**	(0.046)***	(0.056)	(0.052)	(0.069)
Caste Category Congruence X MP-Chief Minister Aligned	0.136	0.085	0.091	0.181	0.137	0.217
	(0.073)*	(0.042)**	(0.041)**	(0.048)***	(0.050)***	(0.059)***
BIMARU X MP-Chief Minister Aligned	0.129	0.049	0.055	0.109	0.076	0.163
	(0.065)**	(0.040)	(0.040)	(0.045)**	(0.048)	(0.061)***
Caste Category Congruence X BIMARU X MP-Chief Minister Aligned	-0.134	-0.036	-0.038	-0.149	-0.176	-0.202
	(0.091)	(0.066)	(0.066)	(0.068)**	(0.069)**	(0.083)**
MP-Chief Minister Aligned	-0.055	-0.035	-0.035	-0.098	-0.044	-0.128
	(0.054)	(0.030)	(0.030)	(0.037)***	(0.039)	(0.051)**
N	149156.000	149153.000	149153.000	54721.000	113889.000	42276.000
R-Squared	0.188	0.319	0.325	0.303	0.328	0.320
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A3.3: Caste Congruence and Bureaucratic Performance with DO Dominance

	Sanctioned in 75 Days					
Panel A:						
MP if Higher Caste Category than DO	0.006	0.008	0.003	0.002	-0.033	-0.074
	(0.043)	(0.030)	(0.030)	(0.035)	(0.035)	(0.056)
DO is Higher Caste Category than MP	0.012	0.053	0.068	0.008	0.045	0.032
	(0.044)	(0.033)	(0.032)**	(0.038)	(0.038)	(0.050)
Jati Congruence	0.005	0.168	0.135	0.208	0.140	0.294
	(0.106)	(0.075)**	(0.068)**	(0.172)	(0.077)*	(0.204)
P-Value MP Dominance = DO Dominance	0.941	0.360	0.182	0.921	0.187	0.239
N	149156	149153	149153	54721	113889	42276
R-Squared	0.184	0.317	0.323	0.299	0.326	0.316
Panel B:						
MP is Higher Caste Category than DO	-0.011	-0.042	-0.041	-0.042	-0.040	-0.108
	(0.051)	(0.036)	(0.037)	(0.049)	(0.045)	(0.082)
DO is Higher Caste Category than MP	-0.019	0.030	0.034	-0.104	-0.000	-0.109
	(0.051)	(0.043)	(0.042)	(0.048)**	(0.047)	(0.070)
MP is Higher Caste Category X Post-1994 Reservation	0.049	0.092	0.085	0.060	0.036	0.084
	(0.051)	(0.039)**	(0.040)**	(0.065)	(0.050)	(0.084)
DO is Higher Caste Category X Post-1994 Reservation	0.081	0.046	0.062	0.177	0.079	0.201
	(0.046)*	(0.044)	(0.042)	(0.056)***	(0.045)*	(0.069)***
P-Value MP Dominance = DO Dominance in States with Pre-1994 Reservation	0.924	0.241	0.210	0.348	0.583	0.999
P-Value MP Dominance = DO Dominance in States with Post-1994 Reservation	0.566	0.393	0.667	0.176	0.495	0.306
N	148339	148337	148337	54721	113296	42276
R-Squared	0.190	0.318	0.324	0.301	0.327	0.318
Panel C:						
MP is Higher Caste Category than DO	-0.008	-0.034	-0.050	-0.042	-0.065	-0.108
	(0.070)	(0.045)	(0.047)	(0.049)	(0.057)	(0.082)
DO is Higher Caste Category than MP	-0.033	-0.032	-0.036	-0.104	-0.068	-0.109
	(0.062)	(0.042)	(0.041)	(0.048)**	(0.048)	(0.070)
MP is Higher Caste Category X BIMARU	0.107	0.084	0.092	0.060	0.034	0.084
	(0.073)	(0.053)	(0.054)*	(0.065)	(0.065)	(0.084)
DO is Higher Caste Category X BIMARU	0.104	0.171	0.197	0.177	0.190	0.201
	(0.060)*	(0.040)***	(0.041)***	(0.056)***	(0.048)***	(0.069)***
P-Value MP Dominance = DO Dominance in South	0.801	0.968	0.818	0.348	0.969	0.999
P-Value MP Dominance = DO Dominance in BIMARU	0.975	0.148	0.087	0.176	0.035	0.306
N	149156	149153	149153	54721	113889	42276
R-Squared	0.187	0.318	0.325	0.301	0.328	0.318
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A3.4: Caste Congruence and Bureaucratic Performance Conditional on 1991 District Characteristics

	Sanctioned in 75 Days					
Panel A:						
Caste Category Congruence	0.236	0.096	0.158	0.331	0.428	0.506
	(0.340)	(0.272)	(0.272)	(0.301)	(0.290)	(0.355)
Caste Category Congruence X Literacy rate	0.342	0.438	0.440	-0.225	0.514	0.248
	(0.221)	(0.183)**	(0.179)**	(0.442)	(0.200)**	(0.471)
Caste Category Congruence X Cultivator rate	0.695	0.197	0.153	0.681	0.135	0.582
	(0.656)	(0.522)	(0.518)	(0.678)	(0.559)	(0.736)
Caste Category Congruence X Manufacturing Worker rate	-0.903	1.431	0.679	7.465	2.012	5.508
	(3.127)	(2.908)	(2.821)	(3.825)*	(2.649)	(4.508)
Caste Category Congruence X Trade/Commerce Worker rate	-1.333	-3.535	-3.417	4.272	-6.199	0.860
	(2.771)	(2.377)	(2.317)	(2.738)	(2.691)**	(3.521)
Caste Category Congruence X Marginal Worker rate	-1.311	-0.868	-0.922	-1.102	-1.889	-1.467
	(0.928)	(0.813)	(0.804)	(1.044)	(0.822)**	(1.294)
Caste Category Congruence X Non-working rate	-0.652	-0.375	-0.463	-0.741	-0.749	-1.081
	(0.363)*	(0.307)	(0.309)	(0.320)**	(0.312)**	(0.381)***
Jati Congruence	0.015	0.176	0.145	0.231	0.143	0.313
	(0.105)	(0.074)**	(0.070)**	(0.175)	(0.078)*	(0.203)
N	148306	148304	148304	54721	113263	42276
R-Squared	0.194	0.318	0.324	0.302	0.327	0.318
Panel B:						
Caste Category Congruence	0.073	0.206	0.285	-0.257	0.123	-0.044
	(0.460)	(0.416)	(0.422)	(0.562)	(0.442)	(0.737)
Caste Category Congruence X Post-1994 Reservation	-0.369	-1.560	-1.705	-0.091	0.302	-0.516
	(0.846)	(0.832)*	(0.833)**	(1.089)	(0.982)	(1.375)
Caste Category Congruence X Literacy rate	0.276	0.594	0.585	-1.113	-0.033	-1.537
	(0.301)	(0.364)	(0.352)*	(1.305)	(0.310)	(1.526)
Caste Category Congruence X Post-1994 Reservation X Literacy rate	0.237	-0.087	-0.058	0.833	0.705	2.121
	(0.388)	(0.419)	(0.407)	(1.379)	(0.404)*	(1.623)
Caste Category Congruence X Cultivator rate	2.180	1.062	0.978	-1.969	-0.906	-1.881
	(0.979)**	(1.015)	(0.989)	(1.369)	(1.086)	(1.795)
Caste Category Congruence X Post-1994 Reservation X Cultivator rate	-1.699	0.867	1.035	3.712	1.635	3.858
	(1.385)	(1.320)	(1.289)	(1.706)**	(1.599)	(2.225)*
Caste Category Congruence X Manufacturing Worker rate	-7.239	-5.318	-5.248	15.406	6.856	3.918
	(6.306)	(6.362)	(6.344)	(10.745)	(7.084)	(13.325)
Caste Category Congruence X Post-1994 Reservation X Manufacturing Worker rate	5.827	13.950	13.009	-10.338	-3.823	1.652
	(7.281)	(7.786)*	(7.587)*	(11.982)	(7.756)	(14.940)
Caste Category Congruence X Trade/Commerce Worker rate	-0.843	-6.586	-6.720	0.878	-7.035	0.628
	(3.810)	(3.408)*	(3.289)**	(8.445)	(3.574)**	(10.413)
Caste Category Congruence X Post-1994 Reservation X Trade/Commerce Worker rate	0.825	11.395	12.095	4.703	5.100	-2.398
	(5.788)	(5.193)**	(5.023)**	(9.311)	(5.650)	(11.388)
Caste Category Congruence X Marginal Worker rate	-2.959	-0.848	-1.206	5.688	2.373	2.799
	(1.391)**	(1.547)	(1.522)	(5.634)	(1.491)	(6.071)
Caste Category Congruence X Post-1994 Reservation X Marginal Worker rate	2.721	0.759	1.262	-6.308	-5.747	-3.050
	(1.840)	(1.855)	(1.835)	(5.818)	(1.687)***	(6.340)
Caste Category Congruence X Non-working rate	-0.453	-0.571	-0.656	1.246	0.166	1.535
	(0.546)	(0.573)	(0.570)	(0.969)	(0.616)	(1.398)
Caste Category Congruence X Post-1994 Reservation X Non-working rate	0.410	1.552	1.676	-1.238	-1.231	-1.506
	(0.939)	(0.995)	(0.999)*	(1.422)	(1.095)	(1.820)
N	148306	148304	148304	54721	113263	42276
R-Squared	0.211	0.319	0.325	0.303	0.329	0.320
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A3.5: Caste Congruence and Bureaucratic Performance Conditional on 1991 District Characteristics

|	Sanctioned in 75 Days					
Panel C:						
Caste Category Congruence	-0.812	-0.612	-0.677	-0.257	-0.696	-0.044
	(0.624)	(0.445)	(0.448)	(0.562)	(0.471)	(0.737)
Caste Category Congruence X BIMARU	-0.241	-0.920	-0.999	-0.091	1.073	-0.516
	(1.093)	(0.911)	(0.906)	(1.089)	(0.791)	(1.375)
Caste Category Congruence X Literacy rate	-0.546	-0.261	-0.317	-1.113	-0.530	-1.537
	(0.469)	(0.323)	(0.317)	(1.305)	(0.417)	(1.526)
Caste Category Congruence X BIMARU X Literacy rate	0.700	0.122	0.358	0.833	1.016	2.121
	(0.693)	(0.545)	(0.538)	(1.379)	(0.596)*	(1.623)
Caste Category Congruence X Cultivator rate	1.892	0.423	0.506	-1.969	0.458	-1.881
	(1.505)	(0.926)	(0.893)	(1.369)	(1.325)	(1.795)
Caste Category Congruence X BIMARU X Cultivator rate	-0.628	1.804	1.786	3.712	-0.149	3.858
	(1.861)	(1.280)	(1.247)	(1.706)**	(1.538)	(2.225)*
Caste Category Congruence X Manufacturing Worker rate	-9.621	-5.481	-6.105	15.406	-0.520	3.918
	(6.780)	(6.837)	(6.848)	(10.745)	(6.925)	(13.325)
Caste Category Congruence X BIMARU X Manufacturing Worker rate	10.054	8.445	8.496	-10.338	-1.189	1.652
	(7.283)	(8.066)	(8.055)	(11.982)	(8.055)	(14.940)
Caste Category Congruence X Trade/Commerce Worker rate	6.606	-2.193	-2.573	0.878	0.643	0.628
	(6.270)	(4.076)	(3.910)	(8.445)	(4.117)	(10.413)
Caste Category Congruence X BIMARU X Trade/Commerce Worker rate	-6.930	3.775	3.888	4.703	-7.976	-2.398
	(7.703)	(5.974)	(5.760)	(9.311)	(5.416)	(11.388)
Caste Category Congruence X Marginal Worker rate	4.130	1.928	1.228	5.688	2.136	2.799
	(4.102)	(3.429)	(3.505)	(5.634)	(4.567)	(6.071)
Caste Category Congruence X BIMARU X Marginal Worker rate	-3.338	-0.509	0.553	-6.308	-3.322	-3.050
	(4.285)	(3.798)	(3.856)	(5.818)	(4.747)	(6.340)
Caste Category Congruence X Non-working rate	1.123	1.404	1.629	1.246	1.600	1.535
	(1.008)	(0.753)*	(0.762)**	(0.969)	(0.907)*	(1.398)
Caste Category Congruence X BIMARU X Non-working rate	-0.082	0.191	0.059	-1.238	-2.285	-1.506
	(1.364)	(1.146)	(1.152)	(1.422)	(1.127)**	(1.820)
N	148306	148304	148304	54721	113263	42276
R-Squared	0.223	0.320	0.327	0.303	0.329	0.320
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Figure A3.2: Distribution of DOs and MPs by Caste Category and History of Mobilization and Region
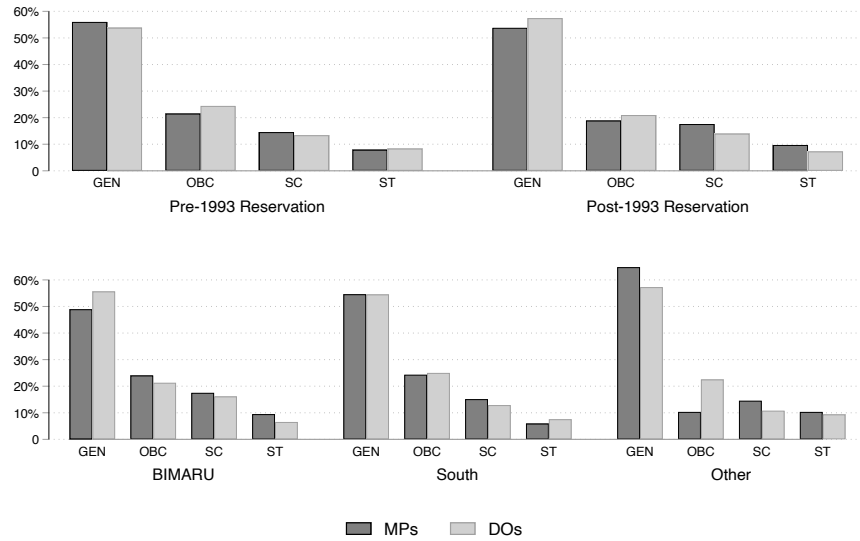
Note: Figure plots the share of MPs and DOs by caste category, history of mobilization, and region. Distributions of caste category are largely similar.

Figure A3.3: Distribution of Received and Sanctioned Projects across National Election Cycles
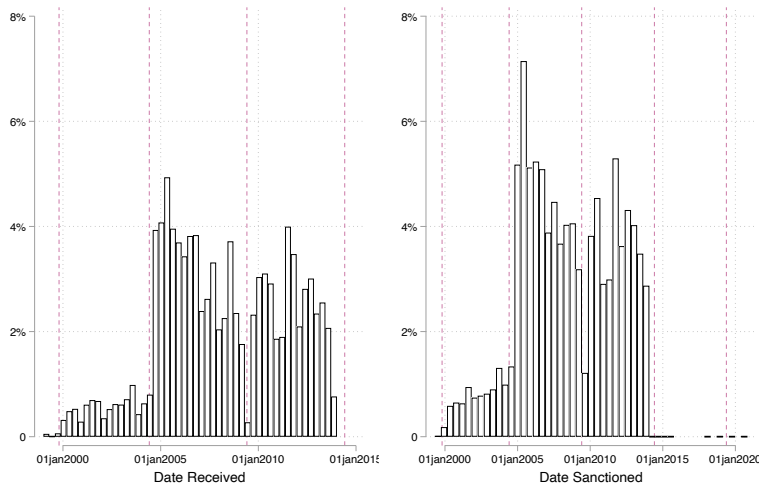
Note: Histogram plots the distribution of MPLADS projects across time based on when they are received and sanctioned. Vertical red lines indicate national election dates.

Table A3.6: Caste Congruence and Bureaucratic Performance by National election timing of project receipt

	Sanctioned in 75 Days					
Panel A:						
Project Received in Year before Nat'l Election	0.100	0.107	0.080	0.038	0.041	0.040
	(0.033)***	(0.025)***	(0.031)***	(0.043)	(0.034)	(0.049)
Caste Category Congruence	-0.005	-0.027	-0.032	-0.005	-0.006	0.023
	(0.023)	(0.020)	(0.020)	(0.026)	(0.022)	(0.029)
Caste Congruence X Before Election	-0.033	-0.031	-0.028	0.002	-0.002	-0.039
	(0.043)	(0.038)	(0.038)	(0.048)	(0.043)	(0.058)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.185	0.320	0.323	0.300	0.326	0.316
Panel B:						
Project Received in Year before Nat'l Election	0.070	0.117	0.082	0.024	0.069	-0.004
	(0.044)	(0.025)***	(0.035)**	(0.062)	(0.038)*	(0.064)
Caste Category Congruence	0.020	0.011	0.009	0.088	0.036	0.124
	(0.032)	(0.028)	(0.028)	(0.039)**	(0.030)	(0.048)***
Caste Congruence X Before Election	-0.041	-0.054	-0.065	-0.012	-0.066	-0.035
	(0.071)	(0.063)	(0.063)	(0.106)	(0.066)	(0.107)
Caste Congruence X Before Election X Post-1994 Reservation	0.015	0.045	0.066	0.025	0.130	-0.025
	(0.086)	(0.079)	(0.078)	(0.114)	(0.087)	(0.123)
Caste Category Congruence X Post-1994 Reservation	-0.066	-0.073	-0.079	-0.137	-0.085	-0.154
	(0.042)	(0.035)**	(0.035)**	(0.046)***	(0.037)**	(0.055)***
N	148339	148337	148337	54721	113296	42276
R-Squared	0.192	0.322	0.325	0.302	0.327	0.318
Panel C:						
Project Received in Year before Nat'l Election	0.039	0.057	0.029	0.024	0.059	-0.004
	(0.071)	(0.038)	(0.044)	(0.062)	(0.049)	(0.064)
Caste Category Congruence	0.021	0.044	0.052	0.088	0.089	0.124
	(0.047)	(0.032)	(0.033)	(0.039)**	(0.039)**	(0.048)***
Caste Congruence X Before Election	-0.005	0.026	-0.001	-0.012	-0.024	-0.035
	(0.105)	(0.081)	(0.085)	(0.106)	(0.086)	(0.107)
Caste Congruence X Before Election X BIMARU	0.013	-0.034	-0.002	0.025	0.021	-0.025
	(0.117)	(0.093)	(0.096)	(0.114)	(0.100)	(0.123)
Caste Category Congruence X BIMARU	-0.110	-0.144	-0.156	-0.137	-0.141	-0.154
	(0.056)*	(0.037)***	(0.038)***	(0.046)***	(0.044)***	(0.055)***
N	149156	149153	149153	54721	113889	42276
R-Squared	0.188	0.322	0.325	0.302	0.328	0.318
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

Table A3.7: Caste Congruence and Bureaucratic Performance by State election timing of project receipt

	Sanctioned in 75 Days					
Panel A:						
Project Received in Year before State Election	0.031	0.032	0.032	0.059	0.033	0.024
	(0.022)	(0.020)*	(0.020)	(0.032)*	(0.024)	(0.045)
Caste Category Congruence	-0.001	-0.023	-0.026	0.014	0.002	0.032
	(0.024)	(0.020)	(0.020)	(0.025)	(0.023)	(0.030)
Caste Congruence X Before Election	-0.043	-0.039	-0.048	-0.126	-0.042	-0.095
	(0.039)	(0.036)	(0.035)	(0.054)**	(0.042)	(0.066)
N	149156	149153	149153	54721	113889	42276
R-Squared	0.185	0.318	0.324	0.303	0.327	0.317
Panel B:						
Project Received in Year before State Election	0.033	0.032	0.028	0.104	0.033	0.068
	(0.033)	(0.034)	(0.033)	(0.056)*	(0.038)	(0.071)
Caste Category Congruence	0.019	0.004	0.005	0.113	0.029	0.154
	(0.033)	(0.029)	(0.028)	(0.037)***	(0.030)	(0.047)***
Caste Congruence X Before Election	-0.012	-0.009	-0.015	-0.210	-0.021	-0.205
	(0.058)	(0.057)	(0.055)	(0.090)**	(0.063)	(0.099)**
Caste Congruence X Before Election X Post-1994 Reservation	-0.051	-0.053	-0.059	0.142	-0.052	0.203
	(0.074)	(0.066)	(0.065)	(0.104)	(0.075)	(0.115)*
Caste Category Congruence X Post-1994 Reservation	-0.058	-0.053	-0.060	-0.150	-0.057	-0.196
	(0.043)	(0.035)	(0.034)*	(0.044)***	(0.039)	(0.055)***
N	148339	148337	148337	54721	113296	42276
R-Squared	0.191	0.319	0.325	0.305	0.328	0.320
Panel C:						
Project Received in Year before State Election	0.048	0.109	0.081	0.104	0.123	0.068
	(0.042)	(0.028)***	(0.029)***	(0.056)*	(0.034)***	(0.071)
Caste Category Congruence	0.055	0.074	0.087	0.113	0.115	0.154
	(0.049)	(0.032)**	(0.033)***	(0.037)***	(0.038)***	(0.047)***
Caste Congruence X Before Election	-0.157	-0.150	-0.173	-0.210	-0.200	-0.205
	(0.073)**	(0.059)**	(0.059)***	(0.090)**	(0.064)***	(0.099)**
Caste Congruence X Before Election X BIMARU	0.127	0.079	0.097	0.142	0.244	0.203
	(0.094)	(0.078)	(0.077)	(0.104)	(0.084)***	(0.115)*
Caste Category Congruence X BIMARU	-0.137	-0.156	-0.176	-0.150	-0.178	-0.196
	(0.058)**	(0.038)***	(0.038)***	(0.044)***	(0.044)***	(0.055)***
N	149156	149153	149153	54721	113889	42276
R-Squared	0.188	0.320	0.326	0.305	0.329	0.320
States	All	All	All	Random DO Allocation	All	Random DO Allocation
DOs	All	All	All	All	Early Career	Early Career
Session Fixed Effects	✓		✓	✓	✓	✓
Fiscal Year Fixed Effects	✓		✓	✓	✓	✓
District Fixed Effects		✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include dyad clustered standard errors and fixed effects as specified. When specified, models also control for MP and DO jati fixed effects, MP and DO caste category, MP and DO gender, Chief Minister-MP party alignment, log number of pending projects, log amount sanctioned for project, and log number of days project sat on desk of prevoius DO. Models also include an indicator for whether Jati is missing. Models with BIMARU region include an indicator for non-BIMARU/non-SOUTH states so the excluded region is the South. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.

A4 Probing Mechanisms

Table A4.1: Caste Congruence and Bureaucratic Selection

	DO was Selected			DO Duration		
Panel A:						
Caste Category Congruence	-0.080	-0.071	-18.466	5.868	10.061	85.654
	(0.033)**	(0.045)	(25.758)	(40.141)	(57.343)	(113.409)
Caste Category Congruence X Post-1994 Reservation		-0.020		-41.082		-115.230
		(0.053)		(49.230)		(117.634)
Jati Congruence	0.103	0.095	135.631	169.080	-154.917	-184.195
	(0.088)	(0.094)	(133.295)	(139.531)	(178.485)	(187.721)
ME of Caste Congruence in Post-1994 Reservation States		-0.091		-35.214		-29.575
		(0.041)**		(31.380)		(54.543)
N	1304	1293	1303	1292	233	231
R-Squared	0.158	0.163	0.244	0.259	0.382	0.386
Panel B:						
Caste Category Congruence	-0.080	-0.031	-18.466	-4.188	10.061	1.997
	(0.033)**	(0.061)	(25.758)	(50.229)	(57.343)	(114.391)
Caste Category Congruence X BIMARU		-0.060		-18.124		-43.239
		(0.067)		(58.036)		(123.224)
Jati Congruence	0.103	0.110	135.631	111.222	-154.917	-130.275
	(0.088)	(0.091)	(133.295)	(127.869)	(178.485)	(192.438)
ME of Caste Congruence in BIMARU		-0.090		-22.312		-41.242
		(0.041)**		(31.618)		(59.349)
N	1304	1304	1303	1303	233	233
R-Squared	0.158	0.159	0.244	0.266	0.382	0.401
States	All	All	All	All	All	All
DOs	All	All	All	All	Inherited	Inherited
Session Fixed Effects	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively. All models include MP clustered standard errors and session year fixed effects. Models also control for MP and DO jati fixed effects, MP and DO caste category, and MP and DO gender. Models also include an indicator for whether Jati is missing and an indicator for non-BIMARU/non-SOUTH states. Models include data from the 13th, 14th, and 15th sessions. Data from the 13th session include only BIMARU states. District officers with official caste category data included and caste category imputed for years when missing.